



*Prof. Agassiz —  
with the regards of  
the Author*

**OTIA CONCHOLOGICA:**

**DESCRIPTIONS**

**OF**

**SHELLS AND MOLLUSKS**

**FROM 1839 TO 1862**

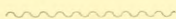
**BY AUGUSTUS A. GOULD, M.D.**



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FROM 1839 TO 1862.

BY

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## P R E F A C E .

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THE following pages are the result of studies in Conchology, pursued as a diversion during the casual moments which intervene in the daily routine of business. They are the product of leisure moments in active professional life, — *OTIA*, — and, indeed, to no small extent, of moments stolen from sleep. Short papers, from time to time, have been published in several periodicals. Extra copies of the sheets relating to the Shells of the Exploring Expeditions under Captains Wilkes and Rodgers were secured as they were originally printed. This will account for the diversity of type and paper which appears in the volume.

To obviate the difficulty of possessing or consulting numerous volumes, I have collected and reprinted, in addition, all the descriptions I have hitherto published; making also such emendations as the advance of science during this lapse of time demands.

The dates of each imprint will be found at pages 100, 178, or connected with the title of each extract.

Boston, April, 1862.



EXPEDITION SHELLS;

DESCRIBED FOR THE WORK OF THE

UNITED STATES EXPLORING EXPEDITION

COMMANDED BY CHARLES WILKES, U. S. N.,

DURING THE YEARS 1838—1842.

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SHELLS

OF THE

NORTH PACIFIC EXPLORING EXPEDITION

UNDER COMMANDERS RINGGOLD AND RODGERS.

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COLLECTANEA:

DESCRIPTIONS OF SHELLS AND MOLLUSKS,

REPRINTED FROM VARIOUS SCIENTIFIC PERIODICALS,

WITH REVISIONS.

1839—1862.

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RECTIFICATIONS.

# EXPEDITION SHELLS:

DESCRIBED FOR THE WORK OF THE

UNITED STATES EXPLORING EXPEDITION,

COMMANDED BY CHARLES WILKES, U. S. N.

DURING THE YEARS 1838—1842.

By AUGUSTUS A. GOULD, M. D.

[FROM THE "PROCEEDINGS OF THE BOSTON SOCIETY OF NATURAL HISTORY."]

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BOSTON:

PRINTED BY FREEMAN AND BOLLES.

1846.



The collection of Shells brought home by the United States Exploring Expedition, on its return in 1842, was very extensive, and a large number of the species were then unknown to science. Many of these latter have been since described in Europe from specimens derived from other sources ; and hence can no longer be claimed as additions made to science by the Expedition.

To avoid, as much as possible, a continued subtraction from the credit of discovery due to the Expedition, it has been determined to publish brief descriptions of the new Shells, as they are prepared from time to time, in the "Proceedings of the Boston Society of Natural History," from which these pages are extracted.

In the absence of a complete library and of collections containing authentic specimens, as well as from the difficulty of deciding between species and varieties without the opportunity of collecting, it is too much to expect that some of the descriptions may not prove to have been anticipated ; and these the writer would be thankful to have pointed out.

In the volume under preparation, more extended descriptions of the shells, together with descriptions of the animals of these and of many other species, will be given, and be fully illustrated by figures.

The names to which "Couthouy MS." is appended were given by Mr. J. P. Couthouy, the conchologist of the Expedition, in his manuscript notes.

BOSTON, 1846.

## EXPEDITION SHELLS.

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**CHITON LIGNOSUS.** Testa solidula, ovata, tectiformis, cæsia, lineolis fuscis inequalibus subradiantibus marmorata, systemate duplici punctorum majorum et punctorum minorum impressa; valvis planulatis, angulatis, sine rostris; arcis lateralibus haud elevatis, vix distinctis; valvâ anteriori parvâ; valvâ posteriori vix umbonatâ: intus æruginosa. Long.  $1\frac{1}{2}$ , lat.  $\frac{7}{8}$  poll. *Hab.* Puget Sound.

Has the form of *C. setiger*, and somewhat the coloring of *C. fulvus*, Wood. It is also allied to *C. tulipa*, Quoy.

**CHITON QUERCINUS.** Testa depressa, ovalis, vix carinata, quercina, maculis olivaceis nubeculata; valvis subrostratis; arcis lateralibus vix elevatis, longitudinaliter sulcatis, sulcis incumbentibus et sulco radiante bisectis; arcis centralibus ad latera lineis rugosis longitudinaliter sculptis, ad dorsum punctatis; valvâ anteriori sulcis concentricis et sulcis radiantibus remotioribus decussatâ; valvâ posteriori prope marginem umbonatâ; margine lato, pruinoso, flavescente. Long.  $\frac{7}{8}$ , lat.  $\frac{3}{5}$  poll. *Hab.* New South Wales.

Allied to *C. foveolatus*, Sowerby.

**CHITON JUGOSUS.** Testa ovalis, carinata, tectiformis, nitida, coloribus pallidè et saturatè herbeis variegata; valvis planulatis, ad apices adunco-acuminatis; arcis lateralibus prominentibus, et lineolis confertis parallelis viridibus longitudinaliter notatis; arcis centralibus sulcis acutis parallelis longitudinaliter aratis, sed ad verticem simplicibus et minutissimè punctatis; valvâ anteriori concentricè lineolatâ; valvâ posteriori umbonatâ, prope marginem concentricè lineolatâ, præter aream terminalem triangularem



luteolam ; margine granulato, fasciis cæruleis et viridibus limbato : intus pallidè virescens. Long. 1, lat.  $\frac{2}{3}$  poll. *Hab.* New South Wales.

Resembles *C. Siculus*, which, however, has radiating lines on the lateral areas.

**CHITON FRUTICOSUS.** Testa ovalis, valdè elongata, transversim arcuata, omnino textiliter punctata, olivacea, maculis minutis saturatioribus fulgurantibus variegata ; valvis haud rostratis ; areis lateralibus prominentibus, et lineis elevatis interruptis ramosis radiatis ; areis centralibus lineis longitudinalibus rugosis, ad latera profundis, ad dorsum evanidis et arcuatis sculptis ; areâ posteriori magnâ, umbonatâ, lineis inconspicuis, interdum divaricatis, radiatâ : intus flavo-olivacea : ligamentum latum, pallidum, minutissimè granulatum. Long.  $1\frac{1}{2}$ , lat.  $\frac{5}{8}$  poll. *Hab.* New South Wales.

Resembles fig. 61 of Sowerby's *Conch. Illustr.*, which is said to be a variety of *C. Indicus*, but which has no ramose sculpture on the lateral areas.

**CHITON PLATESSA.** Testa parva, tenuis, elongato-ovalis, transversim arcuata, citrino-olivacea, ubique minutissimè punctata ; areis lateralibus parvis, vix elevatis, lineis 2-3 inconspicuis striatis ; areis centralibus lineis confertis acutis granulatis arcuatim decussatis ; valvâ posticâ magnâ, obscurè radiatâ ; margine virente, fusco tessellato, minutissimè granulato : intus cæruleo-virescens. Long.  $\frac{7}{8}$ , lat.  $\frac{9}{10}$  poll. *Hab.* New South Wales.

Similar in its general aspect to *C. fruticosus*, but smaller, smoother, and the sculpture of the lateral areas and terminal valves entirely different. It is almost exactly like fig. 67 of the "Conchological Illustrations."

**CHITON JASPIDEUS.** Testa ovata, tenuis, carinata, ubique minutissimè punctata, coloribus rosaceis plus minusve saturatis picta ; areis centralibus lineis minutis granosis confertissimè striatis ; areis lateralibus indistinctis, et lineis 3 ad 4 sparsè granosis radiatim notatis ; valvis terminalibus granoso-striatis, posticâ excavatâ ; margine coriaceo, pruinoso. Long. 1, lat.  $\frac{7}{10}$  poll. *Hab.* Callao.

Resembles, in size, shape, and sculpture, *C. apiculatus*, Say ; but the sculpture is more delicate, and the color, resembling some varieties of jasper, is quite distinctive.

**CHITON PRUINOSUS.** Testa parva, oblongo-elliptica, convexo-elevata, subcarinata, coloribus variis olivaceis, cinereis, et fusco-rubris irrorata et maculata; areis centralibus sub lente omnino quincuncialiter punctatis; areis lateralibus longitudinaliter imbricato-striatis: intus virescens: margo minutissimè granulatus, coloribus fuscis et cinereis tessellatus. Long.  $\frac{7}{10}$ , lat.  $\frac{7}{20}$  poll. *Hab.* Rio Janeiro.

The sculpture of this very variably-colored species is sufficiently characteristic. Between the striæ are usually found minute pores, probably produced by some parasite.

**CHITON VIRIDULUS,** (COUTHOUY MS.) Testa tenuis, oblongo-ovata, dilutissimè olivacea, ad dorsum sub-carinata, utrinque sub-canaliculata, ubique sub lente quincuncialiter insculpta; areis centralibus et lateralibus parum distinctis; lineis incrementi prope marginem conspicuis; valvis terminalibus leviter radiatis: margo minutissimè squamatus. Long.  $\frac{3}{5}$ , lat.  $\frac{7}{20}$  poll. *Hab.* Orange Harbor.

**CHITON PUNICEUS,** (COUTHOUY MS.) Testa parva, oblongo-elliptica, elevata, ad dorsum carinata, punctatissima, punicea, gradibus ætatis conspicuis obtusis signata: areis lateralibus præruptè elevatis, et sparsim granulatis; areis centralibus costulis longitudinalibus parallelis ad 6, plerumque ad medium dislocatis, clathratis; valvâ posteriori rostro parvulo acuto et septo transversali notato: ligamentum minutissimè imbricatum, adversum suturas albido fasciatum. Long.  $\frac{1}{2}$ , lat.  $\frac{3}{10}$  poll. *Hab.* Orange Harbor.

Very much resembles *C. ruber*, Lowe.

**CHITON CONFOSSUS.** Testa parva, ovata, fastigiata, pallida, roseo et incarnato concinnè variegata; valvis rostratis; areis lateralibus elevatis, serie posticâ squamârum et serie obliquâ squamârum majorum ad apicem spectantium finitis; intervallo lævigato, et granulis paucis annulatis sparso; areis centralibus plerumque lævibus sed punctis sparsis triangularibus retrospectantibus confossis; valvâ posteriori valdè gibbosâ, umbone ferè terminali, dentibus insertionis 9, et ad valvam anteriorem 25, pectinatis: margine fusco, carnosio. Long.  $\frac{5}{8}$ , lat.  $\frac{3}{8}$  poll. *Hab.* Feejee Islands.

Allied to *C. sculptus*, Sowb., which has three lateral rays and the central areas smooth.



**CHITON PETALOIDES.** Testa parva, tenuis, ovalis, arcuatim elevata, subearinata, dilutè citrina; arcis lateralibus elevatis, rugosè granulatis, et striis radiantibus ad 4 inculptis; arcis centralibus longitudinaliter rugosè granulato-punctatis, et lineolis tenuissimis angulatis dilutè violaceis pictis; valvâ posteriori acutè umbonata et costâ transversali divisâ: margo stramineus, minutissimè granulato-imbricatus. Long.  $\frac{1}{2}$ , lat.  $\frac{2}{5}$  poll. *Hab.* Sandwich Islands.

A very beautiful and peculiar shell, its markings resembling the venated petals of some flowers.

**CHITON DENTIENS.** Testa minima, ovata, carinata, olivacea, ad dorsum albedo fulminata, omninò minutissimè granulata; arcis vix distinctis; valvis rostratis postice subdenticulatis, dentibus albidis: margo pruinosis. Long.  $\frac{1}{5}$ , lat.  $\frac{3}{20}$  poll. *Hab.* Puget Sound.

Resembles *C. alternatus*, Sowb., which, however, has radiating ribs upon its lateral areas and terminal valves.

**CHITON INCANUS.** Testa solida, oblongo-ovalis, valdè convexa, cinereo et nigro variegata, concentricè undulato-striata, granulis sparsis nigris aspersa, ad dorsum subearinata et longitudinaliter nigro bifasciata; arcis lateralibus vix distinctis: margo aculeis inequalibus curvis curvatis nigris et canescentibus indutus. Long.  $1\frac{3}{10}$ , lat.  $\frac{3}{4}$  poll. *Hab.* New South Wales.

Like *C. piceus*, Gray, in general appearance, and still more like *C. petholatus*, which has a hairy margin.

**CHITON MUSCOSUS.** Testa ovalis, depressa, scabra, ad dorsum obtusa, cinereo bifasciata et plumosè striata; valvis magnis, lateraliter disjunctis; arcis lateralibus parvis, granulis subquadratis radiantibus arcuatim tessellatis; arcis centralibus sulcis acutis confertis flexuosis subparallelis longitudinaliter aratis; valvâ anticâ magnâ, semicirculari, decemcostatâ et granulis subquadratis inculptâ; valvâ posteriori parvâ, costâ transversali inconspicuâ subterminali: margo latus, filis corneis inequalibus muscosis indutus. Long. 2, lat.  $1\frac{1}{8}$  poll. *Hab.* Puget Sound.

Allied to *C. brevispinosus*, but its sculpture and margin are quite distinct.

**PATELLA TALCOSA.** Testa magna, solida, ponderosa, ovato-rotundata, depressa, costulis radiantibus numerosis sub-equalibus

rotundatis flexuosis instructa, vertice sub-centrali, colore saturatè cinnamomeâ ; facies interna talcoso-argentata, purpureo tincta ; callo centrali crasso, albo, spatuliformi, ad marginem radiato ; impressione musculari lato, profundo : margo crenulatus. Long. 4, lat.  $3\frac{1}{2}$ , alt.  $1\frac{3}{4}$  poll. *Hab.* Hawaii, Sandwich Islands.

The colors of the interior, in small specimens, are very rich, and the shell is of a rounded shield-like form, like *P. testudinaria*, attaining sometimes a very large size, larger than any other species except *P. pyramidata*.

**PATELLA SAGITTATA.** Testa tenuis, translucida, ovato-rotundata, depressa, fusco-viridis, nigro obscurè radiata, subtilissimè granuloso-striata, apice antico, acuto, incumbente ; margine integro : facies interna argentea, cum reflexionibus succineis, et interdum fusco radiata ; fundo (luce transmissa) elegantissimè reticulato, et maculis sagittatis radiato. Long.  $1\frac{1}{3}$ , lat.  $1\frac{1}{10}$ , alt.  $\frac{2}{5}$ . *Hab.* Feejee Islands.

This delicate and beautiful species is allied to *P. testudinaria*, but is more depressed and more delicate in all its characters, and its peculiar marking, as seen by transmitted light, like some of the *Navicellæ*, distinguishes it. It was the only species collected at the Feejee Islands.

**PATELLA ILLUMINATA.** Testa inequilateralis, ovato-conica, fuliginosa, maculis sparsis flavidis translucidis illuminata, creberrimè radiatim costellata : apertura ovata ; facies interna nigro-picea, sericeo splendens ; fundo flavido. Long.  $1\frac{1}{2}$ , lat.  $1\frac{1}{4}$ , alt.  $\frac{3}{5}$  poll. *Hab.* Auckland Islands.

In shape like *P. argentea*, with the interior of *P. tramoserica*. It may be the young of what is figured by Quoy as *P. granularis*.

**PATELLA FIMBRIATA.** Testa elevata, obliquè conica, fusco-purpurea, cinereo tincta, costulis distantibus rotundatis radiata, costulis tuberculos fornicatos in seriebus concentricis instructos gerentibus ; apice acuto subcentrali : apertura ovata, limbo lato, nigro pectinato : facies interna nitida, cæruleo-alba, secundum costulos radiata, fundo saturatiori. Long.  $1\frac{1}{3}$ , lat.  $\frac{19}{20}$ , alt.  $\frac{9}{20}$ . *Hab.* Straits of De Fuca.

Much like a small *P. granularis* in shape. The undulations within, corresponding to the ribs, are marked with unusual dis-

tininess. Its ribbed surface and destitution of striæ distinguish it from all the varieties of *L. pintadina*.

*PATELLA CITRULLUS*. Testa depresso-conica, sub-equilateralis, translucida, extus rugoso-undulata, prope apicem lineis granuliferis radiata, pallidè olivacea, intus nitida, plumbea, fundo albido : apertura rotundato-ovata ; margine expanso, acuto. Long.  $1\frac{3}{4}$ , lat.  $1\frac{1}{4}$ , alt.  $\frac{1}{4}$  poll. *Hab.* Funchal, Madeira.

This shell resembles somewhat the skin of a cucumber, externally. The radiating striæ occupy the upper half of the shell, and the lower half is somewhat imbricated by the stages of growth. It is somewhat like *P. Candeï*, D'Orb.

*PATELLA PAUMOTENSIS*. Testa solida, albido-cinerea, ovalis, depresso-conica, apice sub-centrali, costis acutis radiantibus irregularibus ad 10 instructa : facies interna alba vel dilutè incarnata ; impressione musculari callosâ, albâ vel citrinâ ; arcâ centrali ferrugineâ vel incarnescente : margo costis dentatus, spatiis intercostalibus fusco tinctis. Long.  $1\frac{2}{3}$ , lat.  $1\frac{1}{2}$ , alt.  $\frac{1}{2}$  poll. Feejee's. Long.  $1\frac{3}{5}$ , lat.  $1\frac{1}{4}$ , alt.  $\frac{2}{5}$  poll. Wilson's I. Long.  $1\frac{1}{5}$ , lat. 1, alt.  $\frac{2}{5}$  poll. Rose I.

Allied to *P. tramoserica*, but its colors are generally dull and dead, instead of silky. Generally, eight or ten of the ribs are more prominent than the rest. The prevailing color of the interior is that of ripe muskmelon. Sometimes there are dusky spots between the ribs. It seems to be found at all the islands of the Paumotu group, and as far as Taheiti.

*PATELLA LUCTUOSA*. Testa obliquè conica, crassa, vertice eccentricâ, obscurè olivacea, interdum sanguineo tincta, costis majoribus ad 12 rotundatis, scabrosis, pallidis, minoribus quibusdam interjectis : apertura ovalis ; margine crenulato : facies interna livida, reflexionibus succineis micans ; limbo fasciis fuscis et albidis inequalibus alternantibus radiato. Long.  $1\frac{1}{4}$ , lat. 1, alt.  $\frac{1}{2}$  poll. *Hab.* New Zealand.

Unusually rough and irregular of surface, not unlike coarse specimens of *P. vulgata*, but the interior sometimes rivals *P. tramoserica*.

*PATELLA PIPERATA*. Testa scabrida, obliquè conico-depressa, olivacea, costato-striata, costis majoribus pallidioribus cum lineis saturationibus interruptis aspersis, apice eccentricâ, acutâ : aper-



tura ovata ; margine crenulato ; facies interna livida, fundo ferrugineo, radiis albidis insigni. Long.  $1\frac{1}{5}$ , lat.  $\frac{9}{10}$ , alt.  $\frac{1}{2}$  poll. *Hab.* Cape de Verds and Madeira.

Somewhat like what I suppose to be *P. scutellaris*, from the Mediterranean, especially its interior, but more elevated and less elongated.

*PATELLA INSTABILIS.* Testa olivaceo-cervina, elongata, elevata, ad latera compressa, creberrimè radiatim striata, apice sub-centrali, obtusâ, castaneâ : apertura oblongo-elliptica ; margine integro : facies interna lactea. Long.  $1\frac{1}{2}$ , lat.  $\frac{7}{10}$ , alt.  $\frac{8}{10}$  poll. *Hab.* Puget Sound.

Resembles *P. compressa*, but is more smooth and solid, and the apex more nearly central. It may have derived its form from being attached to some arched body.

*PATELLA CINNAMOMEA.* Testa parva, ovalis, convexa, tenuis, cinnamomea, cum striis radiantibus, tenuibus, confertissimis, imbricato-asperis, apice acuto, antico, ad marginem valdè declinato ; aperturæ margine anteriori excurvato, intus costâ albâ marginali munito. Long.  $\frac{1}{2}$ , lat.  $\frac{3}{8}$ , alt.  $\frac{9}{40}$  poll. *Hab.* New South Wales.

Closely allied to *P. Galathea*, Lam. which, however, is snow-white, more circular, the apex more central, and the striæ much coarser.

*PATELLA CONICA.* Testa parva, conoidea, elevata, valdè regularis, inornata, vel lineolis obsoletis radiantibus et concentricis striata ; colore luteo-cinereo : apertura rotundata, margine simplici, limbo marginali planato. Long.  $\frac{4}{8}$ , lat.  $\frac{1}{2}$ , alt.  $\frac{3}{8}$  poll. *Hab.* Puget Sound.

Similar to *P. scurra*, Lesson, but is more elevated, less symmetrical, and more delicate in structure and markings, especially in the radiating striæ.

*LOTTIA PINTADINA.* Testa diversissimè figurata et picta, tenuis, ovato-rotundata, radiatim et confertim striata, smaragdina, interdum fuscescens vel cinerascens, maculis crebris albidis tessellata aut radiata ; apice plerumque sub-centrali, plus minusve elevatâ : facies interna cœruleo-albida, nitens ; fundo piceo ; limbo lato, piceo et albido tessellato. Long. 2, lat.  $1\frac{2}{5}$ , alt.  $\frac{3}{5}$  poll. *Hab.* Straits of De Fuca, Puget Sound, and Mouth of Columbia River.

This very variable species is the analogue of *L. testudinalis* of the North Atlantic waters, though larger. Two well-marked varieties may be noted. One tessellated with about equal proportions of green and whitish, the interior marginal limb broad and tessellated, the dark color predominating. In the other the colors are arranged rather in stripes, the internal limb is narrower, and the light color predominates. Very probably *L. scutum*, Esch. is only another variety.

**LOTTIA CYMBIOLA.** Testa solida, depresso-conica, arcuata (apice eccentricâ) glauco et fusco-olivaceo radiata, radiatim creberrimè puncto-striata: apertura elliptica, margine minutissimè crenulato: facies interna, albida, spadiceo sordidata; limbo lato, fusco et albo tessellato. Long.  $\frac{9}{10}$ , lat.  $\frac{7}{10}$ , alt.  $\frac{3}{10}$  poll. *Hab.* Bay of Valparaiso.

A small, rather smooth shell, arched in every direction, in consequence of attaching itself to other shells. When fresh it is very prettily radiated.

**PATELLA (LOTTIA?) TEXTILIS.** Testa depressa, obliquè conica; apice anteriori, acuto; costis latis, elevatis, subplanulatis, nodosis ad 15 radiantibus; epidermide viridi, punctis albidis quadratis reticulato: basi ovato-rotundato, limbo marginali albido et fusco-viridi fimbriato: facies interior albida; fundo picco. Long. 1, lat.  $\frac{3}{4}$ , alt.  $\frac{3}{10}$  poll. *Hab.* Straits of De Fuca and Killimook.

Like some varieties of *P. viridula*; but its base is less orbicular, its color is darker green, and the reticulations are finer and less in zigzag; the ribs are less numerous, nodular, and not paler. Its remote locality favors the idea of its being distinct.

**PATELLA (LOTTIA?) SCABRA.** Testa parva, scabra, per-inequilateralis, obliquè arcuato-conica, pallidè virens, nigro diversemodè virgata, costis radiantibus scabrosis ad 15 ornata; basi ovatâ: facies interna albida; fundo picco, limbo marginali viridulo et picco fimbriato. Long.  $\frac{7}{8}$ , lat.  $\frac{5}{8}$ , alt.  $\frac{3}{8}$  poll. *Hab.* San Francisco.

About the same size, and may be only a variety, of *P. textilis*. Its arched form, rough surface, coarse black stripes, and different locality, seem to warrant its separation.

**PATELLA (LOTTIA?) ARANEOSA.** Testa parva, tenuis, depresso-conica, sub-equilateralis, lævis, pallidè virens, ramulis rubigi-

nosis araneosis reticulata : facies interna albida ; margine simplici, acuto ; limbo marginali planulato, rubiginoso, radicoso. Long.  $\frac{5}{8}$ , lat.  $\frac{1}{2}$ , alt.  $\frac{1}{4}$  poll. *Hab.* Sooloo Sea.

A pretty little shell, most probably a *Lottia*, resembling some of the species figured by Quoy, especially his *orbicularis*. Indeed it is so like the reticulated variety figured in Pl. LXXI. fig. 33, that the examination of a more extensive series might show them to be identical.

*SIPHONARIA CORNUTA.* Testa rudis, fuliginosa, valdè depressa, per-inequilateralis, radiatim striata, apice submediano, costis ad 15 inequalibus, ultra marginem prolongatis, præcipuè costà suprasiphonali : cavitas parva, minimè profunda, dextrorsum effusa ; limbo marginali expanso, albo, vel fusco inter costas radiato. Long. 1, lat.  $\frac{17}{10}$ , alt.  $\frac{1}{5}$  poll. *Hab.* Mangsi.

Allied to *S. atra*, to which it may possibly be traced by its varieties ; but it is more elongated, less symmetrical, and the ribs, which are much more numerous on the left than on the right side, surpass the margin to a much greater extent.

*SIPHONARIA INCULTA.* Testa parva, crassa, irregularis, depresso-conica, costulis 20-24 radiata ; apice sub-centrali : cavitas profunda, latere sinistro præcipiti, latere dextro declivi ; fundo fusco nubeculato ; cicatrice musculari profundâ ; limbo marginali expanso, sericeo, hepatico ; margine costulis dentato. Long.  $\frac{7}{10}$ , lat.  $\frac{11}{10}$ , alt.  $\frac{1}{4}$  poll. *Hab.* New Zealand.

A small, rugged-looking species, easily distinguished by its irregular, one-sided form, and its liver-brown interior.

*SIPHONARIA LATERALIS*, (COUTHOUY MS.) Testa parva, fragilis, inequilateralis, perobliqua, oblongo-ovalis, olivacea, sursum fuscescens, costulis radiantibus ad 25 obtusis, nodosis, subequalibus : intus hepatica ; cicatrice musculari inconspicuâ. Long.  $\frac{3}{5}$ , lat.  $\frac{2}{5}$ , alt.  $\frac{1}{5}$  poll. *Hab.* Burnt Island, Orange Harbor.

This might be regarded as the young of *S. Lessoni*. But besides essential differences in the animal, the great inequality of the two sides, the peculiar position of the apex and the more coarse and nodular ribs, give it a peculiar character.

*SIPHONARIA LEPIDA.* Testa parva, tenuis, ovato-rotundata, depresso-conica, cinereo-olivacea interdum violaceo tincta ; apice submediano, obtuso ; costis radiantibus numerosis depressis, quo-



rum ad 12 majoribus, albicantibus; striis incrementi confertis, laxis: intus livida, albido radiatim lineata; margine vix crenulato, pallescente. Long.  $\frac{9}{20}$ , lat.  $\frac{7}{20}$ , alt.  $\frac{3}{20}$  poll. *Hab.* Rio Janeiro.

Allied to *S. plicata*, Quoy, which, however, is described as solid, its summit recurved, its ribs equal, its interior pale horn color, radiated with pairs of reddish lines, and is found at Tongataboo.

**SIPHONARIA NORMALIS.** Testa parva, tenuis, symmetrica, basi rotundata, elevato-conica, fusco-cinerea, creberrimè costato-striata, striis subequalibus: subtus fundo castaneo, limbo marginali mustelino, cicatrice benè impresso; margine acuto, ad canalem siphonalem angulato, albido lineolato. Long.  $\frac{4}{10}$ , lat.  $\frac{7}{20}$ , alt.  $\frac{3}{20}$  poll. *Hab.* Sandwich Islands.

A small, delicate species, very different from any I have seen. Its circular base, regular conical form, very numerous rib-striae, and peculiar pale chocolate color distinguish it.

**EMARGINULA ASPERA.** Testa parva, tenuis, depresso-conica, fuliginosa; costis elevatis quadratis plerumque duplicibus ad 10 albidis, ad intervallos striis crebris decussantibus exasperatis; vertice subcentrali, acuto, recurvo: intus glauca, albido radiata; margine denticulato: incisura angusta, profunda, intus in canalem versus apicem producta. Long.  $\frac{4}{10}$ , lat.  $\frac{3}{10}$ , alt.  $\frac{3}{20}$  poll. *Hab.* Sydney, New South Wales.

Much like *E. rugosa*, Quoy, in size and form, but differs in color, sculpture, and the larger size of the notch.

**EMARGINULA FUNGINA.** Testa parva, solidula, elliptica, cinereo-virens; costis radiantibus, parvulis, quarta quaque majori, rotundatis; apice mediani, erecto: intus viridula, cicatrice musculari intrinsecus atri-limbata; margine smaragdino, eleganter crenulato: incisura lata, modicè profunda, intus in canalem ad verticem producta. Long.  $\frac{1}{2}$ , lat.  $\frac{3}{8}$ , alt.  $\frac{1}{5}$  poll. *Hab.* Upolu.

A very pretty species, somewhat resembling *E. parmophoidea*, Quoy, but differs in the dark coloring along the inner margin of the muscular impression, forming the figure of a toadstool, and in the greater development of the notch.

**EMARGINULA OSSEA.** Testa crassa, rudis, albida, quadrangularello-elliptica, costis radiantibus numerosis inequalibus acutis, et striis incrementi decussata; basi arcuato, margine crenulato; cicatrice

musculari benè impressâ : incisura haud profunda, intus vix in canalem producta. Long.  $\frac{6}{10}$ , lat.  $\frac{9}{20}$ , alt.  $\frac{3}{10}$  poll. *Hab.* Feejee Islands.

Allied to *E. australis*, Quoy, but is much smaller and less deeply checkered.

**EMARGINULA CINEREA.** Testa cinerea, *E. osseo* similis, sed tenuior, altior, magis dispositè et delicatè clathrata : cicatrice musculari inconspicuâ : incisura minimè profunda, in canalem interiorem valdè insignem producta. Long.  $\frac{5}{8}$ , lat.  $\frac{4}{8}$ , alt.  $\frac{3}{8}$  poll. *Hab.*

Similar to the preceding, but far less solid, and much more regularly and delicately cross-barred ; and if the size of the notch, the development of its canal, and the depth of the muscular impression, are important characters, they are certainly distinct species.

**FISSURELLA CRATITIA.** Testa solida, elevata, ovalis, albida, radiis fuscis ad 16 picta, lineis elevatis radiantibus et concentricis sub-equalibus profundè imbricato-cancellata : apice sub-centrali, intus alba ; margine inequaliter crenulato : foramen apicalis sub-rotunda. Long. 2, lat.  $1\frac{2}{5}$ , alt.  $\frac{1}{2}$  poll. *Hab.* Puget Sound.

It has the general aspect of *F. maxima*, but is sculptured like *F. Græca*.

**FISSURELLA VERNA.** Testa solida, striata, ovalis, symmetrica, depresso-conica, cinereo-viridescens, atro-purpureo radiata, costis ad 20-30 sub-elevatis, planis, interstitiis adequantibus ; vertice subcentrali, purpureo : fissura parva, ovalis ; margine crenato : intus alliacea, fissuræ limbo radiatim striato, purpureo marginato. Long.  $1\frac{2}{5}$ , lat.  $1\frac{1}{5}$ , alt.  $\frac{1}{2}$  poll. *Hab.* Port Praya, St. Jago Island, Cape de Verds.

Much like *F. obtusa*, Sowb., but more elongated, and with its ribs, more numerous rays and faintly scalloped margin, as well as its distant locality, it may be regarded as a different species. Some specimens are not rayed, and others are entirely dark purple.

**FISSURELLA OCCIDENS.** Testa ovata, conica, valdè elevata, radiatim multistriata, fasciis atro-purpureis ad 15 et fasciis rosaceis alternantibus radiata, apice subcentrali : apertura ovata : facies interna nivea, margine latiusculo viridulo fusco tessel-

lato : fissura ovali-rotundata. Long.  $1\frac{3}{10}$ , lat.  $1\frac{1}{10}$ , alt.  $\frac{11}{20}$  poll. *Hab.* Callao.

In shape and color it agrees with *F. caffra*, Chem., from the Cape of Good Hope, and also with *F. Praya*, Quoy. It is remarkable for its elevated, conical form, and dark, radiate exterior.

*RIMULA CUCULLATA.* Testa solida, cinerea, per-inequilateralis, costis ad 40 acutis, compressis, majoribus et minoribus alternantibus radiata, et striis concentricis confertis muricata; apice elevato, acuto, adunco, prorsum spectante : fissura lanceolata : apertura ovata; margine sulcis inequalibus alternantibus crenulato : facies interna porcellana; fornice tenui, simplici, arcuato. Long.  $\frac{5}{8}$ , lat.  $\frac{7}{16}$ , alt.  $\frac{3}{8}$  poll. *Hab.* Puget Sound.

A large and curious species, its very inequilateral form giving it the aspect of a Hipponix. It is less elevated in proportion to its base than any other known species. The ribs are very regular, and sometimes still finer rays are found in the interstices.

*RIMULA GALEATA.* Testa solida, cinerea, elevata, globoso-conica, apice centrali, acuto, prorsum porrecto, striis filiformibus confertis radiata, et striis minoribus concentricis decussata : fissura brevis, fusiformis : apertura rotundato-ovalis; margine expanso, acuto, minutissimè crenulato; fornice costâ transversali anticè suffulto, fossam trigonalem utroque latere formante. Long.  $\frac{9}{20}$ , lat.  $\frac{8}{20}$ , alt.  $\frac{9}{20}$  poll. *Hab.* Puget Sound.

Differs from the preceding in shape, sculpture, and in the interior rib, which props the fornice, and forms two pits, which, with the fissure, remind one of the openings for the eyes and nose in the human skull.

Two small species of *Rimula* were found at Orange Harbor, one of which is probably *R. conica*, D'Orb., and the other I name *R. COGNATA*, which is similar to the preceding and to *R. Noachina*, but more depressed. These were found living, and will be again noticed when describing the animal.

*CREPIDULA ROSTRIFORMIS.* Testa solida, lævis, castanea, elevata, recurva, ad basim rotundato-ovalis; apice postico, adunco : lamina interna parva, alba, profundè sita, versus apicem penetrans; margine arcuatim sinuato. Long.  $\frac{3}{4}$ , lat.  $\frac{1}{2}$ , alt.  $\frac{3}{8}$  poll. *Hab.* Straits of De Fuca.



I am acquainted with no other species where the apex is so elevated and so remote from the margin of the shell. It looks like a very obtuse-angled bird's-beak. The specimen examined had numerous rib-like folds on the surface, which were probably caused by its adhesion to some ribbed shell.

*CREPIDULA LINGULATA.* Testa parva, depressa, obliqua, rotundata, alba, lineis numerosis crebrè divaricantibus radiata, epidermide pallido induta; apice acuto, libero, propè marginem sito: intus lutescens; septo linguiformi, excavato, ad medium carinâ diviso et obliquè protruso, ad latus sinistrum profundè sinuato. Diam.  $\frac{1}{2}$ , alt.  $\frac{3}{8}$  poll. *Hab.* Puget Sound.

Like *C. capensis*, Quoy. The only specimen examined seems to have been convex and solid in its early growth, afterwards becoming flat.

*CREPIDULA NUMMARIA.* Testa tenuis, plana, circularis, alba, striis incrementalibus laxis insculpta, epidermide flavo-cornèa induta; apice vix conspicuo, marginali: septum internum latius quàm longum, deorsum fornicatum; margine flexuoso: cavitas ferè nulla. Diam.  $\frac{3}{4}$  poll. *Hab.* Classet.

This very peculiar shell is well characterized by its perfectly flat, circular form. It probably grew within some other shell, and other specimens may be found moulded into a different form. It is separated from *C. lingulata* by the form of its septum.

*CALYPTRÆA FASTIGIATA.* Testa parva, tenuis, lævis, rotundata, elevato-conica, concentricè et tenuissimè striata, epidermide fusciscente induta; spirâ anfract. 3 planulatis, apice sub-mediano, acuto: lamella interna spiralis, striata margine libero ad centrum duplicato, haud appresso, umbilicum parvum efformante. Diam.  $\frac{1}{2}$ , alt.  $\frac{5}{8}$  poll. *Hab.* Puget Sound.

In shape, size and interior, it scarcely differs from *C. pileolus*, D'Orb., but that shell is white, has a rough surface, and is radially ribbed about the summit. It also resembles *C. squama*, Brod.

*CALYPTRÆA RADIOSA.* Testa irregularis, tenuis, alba, lucida, ad basim rotundata, obliquè globoso-conica, lineis acutis numerosis elevatis cum striis tenuissimis intercalariis radiata; apice postico, obtuso: lamella interna elongata, semi-volutata, per-obliquè truncata; cornubus lanceolatis; basi attenuato. Diam.  $\frac{1}{2}$ , alt.  $\frac{4}{10}$  poll. *Hab.* Mangsi.

Differs from *C. equestris*, *lithedaphus*, and other similar species, in having rather distant, regularly-disposed raised lines, with intervening smaller ones, instead of their being all of uniform size.

**CALYPTRÆA CHLORINA.** Testa irregularis, tenuis, concentricè undosa, lineis elevatis acutis confertis radiata, ad basim subcircularis, obliquè pyramidata, epidermide tenui chlorico induta; apice elevata, posteriori, spirali, cernuo: intus nitida, porcellana; margine evoluta, acuto; laminâ interiori semi-cyathiformi, brevi, reflexo, obliquè truncato. Long.  $\frac{1}{2}$ , lat.  $\frac{6}{10}$ , alt.  $\frac{1}{4}$  poll. *Hab.* Port Praya, Cape de Verds.

Allied to *C. equestris*. Its depressed, orbicular and comparatively regular form, its short cup, and its color, are its characteristics.

**HIPPONIX IMBRICATA.** Testa solida, obliquè elevato-conica, rubescens, costulis acutis radiantibus 40-50, et lamellis concentricis concinnè imbricato-clathrata; apice submediano: apertura rotundato-ovata: intus coccinea. Long.  $\frac{1\frac{3}{2}}{2}$ , lat.  $\frac{1\frac{1}{2}}{2}$ , alt.  $\frac{8}{2}$  poll. *Hab.* Sandwich Islands.

Most like *H. pilosa* in sculpture, though the pattern is much coarser. The apex is far more central and elevated. The color of the interior is like *H. foliacea*, but more intense.

**PILEOPSIS CRYSTALLINA.** Testa parva, candida, crystallina, nitidissima, semiglobosa, ad basim ovata, sulcis profundis creberrimis radiantibus acutis insculpta; apice terminali, acuto, vix curvato, submarginali: subtus ad marginem anticè acuminata, posticè septiformis. Long.  $\frac{1}{2}$ , lat.  $\frac{3}{8}$ , alt.  $\frac{1}{4}$  poll. *Hab.* Feejee Islands.

The beautiful crystalline, quartz-like lustre of this shell, its deep, regular sulci, and its crepiduloid base very distinctly mark this species.

**HELIx LABIOSA.** Testa depresso-conica, subtus convexa, arcetè umbilicata, luteo-cornea, pilis sericeis quincuncialiter dispositis undique villosa: spira anfr. 6 convexis, ultimo inmodicè crescente et pone labrum valdè contracto: apertura angusta, lunata; labro albo, latè revoluta; fauce lividâ. Lat.  $\frac{7}{10}$ , alt.  $\frac{4}{10}$  poll. *Hab.* Astoria, Oregon.

Closely allied to *H. palliata*, but is smaller, lacks the tooth on

the columella, which, with the greater convexity beneath, and the rapid enlargement of the last whorl near the aperture, are sufficiently distinctive characters. It seems to be nearly like *H. Columbiana*, Lea, a shell with which I am not acquainted.

*HELIX LORICATA.* Testa parva, depressa, flavo-viridis, arcuè umbilicata, squamulis crescentiformibus undique loricata, subtus convexa: spira anfr.  $5\frac{1}{2}$  convexiusculis, arcuè volutis, ultimo superne ad peripheriam subangulato: apertura contracta, lunata, trilobata, dente laterali, dente basali, et dente columellari lamelliformi ringens; peristomate albo, reflexo, callo copioso conjuncto. Lat.  $\frac{1}{4}$ , alt.  $\frac{3}{10}$  poll. *Hab.* California.

Form much like *H. inflecta*, but smaller, and teeth less developed. Its peculiar surface, resembling a scaly coat of mail, is highly characteristic.

*HELIX DEVIA.* Testa orbiculato-depressa, obliquè striata, dilutè viridi-cornea, umbilico modico canaliculato perforata: spira anfr. 6 convexus, ultimo ad peripheriam rotundato: apertura transversa, obliquè lunata, ad anfractum penultimum unidentata, dente trigono; labro albo, latè reflexo, ad basim horizontali, umbilicum aliquanto ambiente. Lat.  $\frac{4}{5}$ , alt.  $\frac{9}{20}$  poll. *Hab.* Oregon. ?

Much like *H. pedestris*, but more solid, and lacks the peculiar wrinkling of the epidermis. The lip is more broadly reflected, and the aperture toothed. Placed by the side of the southern variety of *H. palliata*, somewhat blanché, it would hardly be distinguished except by the umbilicus.

*HELIX GULOSA.* Testa globulosa, crassa, rudis, sub-perforata, obsoletè carinata, pallidè castanea, colore saturiori nubilata, et interdum fasciata: spira anfr. 6 rotundatis, striatis; ultimo amplissimo, et obsoletè costato-carinato; suturâ profundâ: apertura magna, rotundata, fauce lividâ; labro modicè reflexo, albido, propè columellam latiore, umbilicum rimatum tegente. Lat.  $1\frac{1}{10}$ , alt.  $\frac{4}{5}$ , apert.  $\frac{3}{5}$  poll. *Hab.* New South Wales.

Remarkable for the great altitude of its outer whorl and its large aperture. It is like *H. Californianus* in form, *H. albolaris* in texture, and *H. badia* in color.

*HELIX ZICZAC.* T. parva, rotundata, depressa, stramineo-albida, lineolis obliquis fulminantibus fuscis picta, et laminis acutis



confertis reflexis pilosis lyrata : subtus convexa, umbilico magno scalariformi perforata : spira anfr. 6 convexis, angustis : apertura subcircularis, ad basim subangulata ; labro simplici, propè umbilicum reflexo. Lat.  $\frac{3}{10}$ , alt.  $\frac{1}{6}$  poll. *Hab.* New South Wales.

A very beautiful shell, unlike any other described except *H. dissimilis*, D'Orb., which is larger, more dotted, and is not noted as hairy. In general form, striation, umbilicus, &c., it is like *H. striata*.

*HELIX PEDESTRIS.* Testa rudis, depresso-globosa, latè perforata, luteo-cornea, ad apicem virens, striis incrementalibus conspicuis inequalibus, et striis minutissimis confertis volventibus decussata : spira anfr.  $5\frac{1}{2}$  convexiusculis ; ultimo ventricosus, prope aperturam deflexo : apertura obliqua, transversa, rotundato-lunaris ; peristomate reflexo, albo, ad basim dilatato, juxta columellam sinuato. Lat.  $\frac{7}{8}$ , alt.  $\frac{1}{2}$  poll. *Hab.* New South Wales.

It has the shape and aspect of *H. zuleta*, but is more like *H. profunda* inferiorly.

Instead of the usual sliding motion of the Helices, the mollusk of this shell flexes its foot into about four vertical undulations, so as to touch the plane of motion at as many points only ; and these undulations pass from the head towards the tail, as in the motions of a caterpillar or a millipede.

*HELIX STRIGOSA.* Testa orbicularis, depressa, scabrata, latè umbilicata, cinereo-grisea vel fusciscentis, fasciis linearibus volventibus pallidè fuscis interdum subtus notata : spira anfr. 5 convexiusculis ; ultimo angulato et prope aperturam deflexo : apertura circularis ; labro simplici, continuo. Lat.  $\frac{9}{10}$ , alt.  $\frac{2}{3}$  poll. *Hab.* Interior of Oregon.

Of the shells of this continent, it may be compared with *H. alternata* in form ; but in its opaque and rugged aspect, and in most of its characters, it nearly resembles *H. alpina* of Europe.

*HELIX SPORTELLA.* Testa planulata, fragilis, nitida, luteo-cornea, subtus concava, latè umbilicata, lineis incrementi conspicuis et lineis volventibus subtilissimis confertim decussata : anfr. 5, ultimo magno ; suturâ profundâ : apertura rotundata, infra subangulata ; labro acuto, simplici. Lat.  $\frac{1}{2}$ , alt.  $\frac{1}{4}\frac{1}{6}$  poll. *Hab.* Puget Sound, Oregon.

Much like *H. concava*, but has a smaller umbilicus, and larger

aperture, and the transverse incisions of the striæ are sufficiently distinctive.

*HELIX MUTATA.* T. orbicularis, depressa, tenuis, cerina, infrà rotundata : spira anfr. 4 convexis, nitidis, junioribus glabratis, majoribus suprâ crassi-striatis, subangulatis ; sutura impressa : subtus glabra, sulcis radiantibus remotis radiatim divisa, umbilico modico perforata ; apertura ampla, lunata, basi subangulata ; labro simplici. Lat.  $\frac{3}{10}$ , alt.  $\frac{3}{20}$ . *Hab.* Rio Janeiro.

Not unlike *H. alliaria*, or small specimens of *H. cellaria*, in general aspect ; but it is more globose and coarsely rib-striate, like *H. Pennsylvanica*. It may be *H. insignis*, D'Orb.

*HELIX LYRATA* (COUTHOUY MS.). Testa minuta, depressa, rufo-cornea, umbilicata : spira anfr. 4 cylindricis, et striis elevatis confertis lyratis ; suturâ canaliculatâ : apertura circularis ; labro simplici. Lat.  $\frac{1}{5}$ , alt.  $\frac{1}{20}$  poll. *Hab.* Terra del Fuego.

About the size and color of *H. rupestris*, but more depressed, and with a less expanded umbilicus. It may be *H. costellata*, D'Orb.

*HELIX PUSILLUS.* Testa minuta, tenuis, depressa ; suprâ oblique striata, albido-virens ; infra viridior, sub-polita, perforata : spira anfr. 4 sub-planulatis ; suturâ profundâ : apertura circularis ; labro simplici. Long.  $\frac{7}{10}$ , lat.  $\frac{3}{10}$  poll. *Hab.* Mountains of Maui, Sandwich Islands.

Scarcely to be distinguished from *H. electrina*, Gould, in size and form, but it is more coarsely striated. It is also like *H. spirillus*, but has a much smaller umbilicus.

*HELIX SAXATILIS* (COUTHOUY MS.). Testa parva, sub-globosa, lucida, viridis, infrâ convexa, umbilico modico perforata, leviter striata : spira anfr. vix 4 cylindricis, citò crescentibus ; suturâ canaliculatâ : apertura sub-orbicularis, ampla ; labro simplici, ferè continuo. Alt.  $\frac{1}{10}$ , lat.  $\frac{1}{4}$  poll. *Hab.* Terra del Fuego.

Resembles, in general, *H. lucida*, and is remarkable for its globular form and fresh green color.

*HELIX EXÆQUATA.* T. parva, discoidea, tenuis, lucida, glabrata, succineo-cornea, ad peripheriam rotundata, infra sub-plana, in foveam centralem devexa : spira anfr. 7 arcetè volutis, suprâ planulatis, suturâ marginatâ benè impressâ discretis, spiram planam efformantibus : apertura angusta, transversa ; labro simplici,

portione sinistrâ ferè horizontali, recedente, subreflexâ. Lat.  $\frac{7}{20}$ , alt.  $\frac{3}{20}$ . *Hab.* Kauai, Sandwich Islands.

A very beautiful and polished symmetrical shell ; beneath like *H. interna* and *indentata*.

*HELIX CICERULA.* T. depresso-globosa, tenuis, sub-opaca, imperforata, albido-virescens, striis incrementi conspicuis et striis volventibus sparsis insculpta : infrâ rotundata, foveâ centrali modicâ : spira anfr. 5 convexis, ultimo angulato : apertura lunata ; labro simplici ; columellâ supernè vix reflexâ. Lat.  $\frac{1}{4}$ , alt.  $\frac{3}{20}$  poll. *Hab.* Mountains of Hawaii.

Distinguished from the other small subglobular shells here mentioned by its pea-green color and more globular shape, both above and beneath, its deeper umbilical pit, and by having no semblance of contortion of the columella.

*HELIX CRYPTOPORTICA.* Testa parva, orbiculari-depressa, ad apicem acuta, tenuis, pellucida, nitida, luteo-virescens, leviter striata : infrâ rotundata, imperforata, foveâ parvâ centrali : spira anfr.  $5\frac{1}{2}$  convexiusculis, ultimo carinato ; suturâ impressâ, marginatâ : apertura lunata, labro simplici ; columellâ supernè valdè intortâ, sinum angustum centralem formante.

Very similar to *H. subrutila*, Mighels, but is distinguished from it by the want of revolving striae, and by the manner in which the columella joins the whorl above.

*HELIX CULTRATA.* T. parva, orbicularis, depressa, glaberrima, lucida, fusco-viridis, infrâ rotundata, in foveam umbilicalem convexa, imperforata : spira anfr. 5 convexis, ultimo supernè carinato ; apice obtuso ; suturâ marginatâ : apertura angusta, lunata, labro simplici ; columellâ obliquâ, callosâ, albâ, planulatâ, inflexâ, infernè dentem simulante. Lat.  $\frac{9}{40}$ , alt.  $\frac{1}{10}$  poll. *Hab.* Taheiti and Eimeo.

A beautiful, smooth, lenticular, dark-green shell, not unlike *H. interna*, Say, distinguished by its curious broad, white, inflected, columellar lip.

*HELIX PERTENUIS.* Testa minuta, subglobosa, pellucida, nitidissima, viridi-aurèa, imperforata : spira depressa, anfr.  $4\frac{1}{2}$  convexis, ultimo amplo, ad peripheriam angulato, infrâ sulcis remotis radiato : apertura ampla, lunata ; labro simplici. Lat.  $\frac{1}{8}$ , alt.  $\frac{1}{10}$  poll. *Hab.* Aurora Island.

A small, very pellucid shell, somewhat like *H. electrina* and *lucida*, but more globular.

*HELIX GRADATA.* Testa parva, planorboidea, tenuis, nitida, rufo-viridis, luteo radiatim variegata, supra depressa, infra acetabuliformis: spira anfr. 5 convexis, intra umbilicum angulatis, obliquè et confertim striatis et cum striis interruptis volventibus decussatis; ultimo subangulato, versus aperturam deflexo; suturâ canaliculatâ: apertura obliqua, subcircularis; labro acuto, ad umbilicum reflexo. Lat.  $\frac{1}{5}$ , alt.  $\frac{1}{2}$  poll. *Hab.* Tongataboo.

Shape and size of *H. striatella*, Anthony, but has the umbilicus broader, deeper, and more shelving.

*HELIX FORNICATA.* Testa parva, planorboidea, tenuis, dilutè rufa, supra convexiuscula, infra concava, obliquè ordinatim et confertim costato-striata: spira anfr. 4 convexis; ultimo ad peripheriam rotundato; suturâ profundâ: apertura transversa, rotundato-elliptica. Lat.  $\frac{1}{4}$ , alt.  $\frac{1}{10}$  poll. *Hab.* Kauai, Sandwich Islands.

A small, dome-shaped shell, marked like *H. striatella*, but more like *H. indentata*, in the form of the spire.

*HELIX RUBIGINOSA.* T. orbicularis, depressa, ferrugineo-cornea, fusco tessellata, obliquè costato-striata, latè umbilicata; spira anfr. 6 arcuè volutis; suturâ impressâ: apertura subrecta, lunata; labro simplici; lamellâ unicâ secundum anfractum penultimum volvente. Lat.  $\frac{7}{30}$ , alt.  $\frac{3}{10}$  poll. *Hab.* Kauai, Sandwich Islands.

Larger than the other checkered shells of this group; like *H. striatella*, Anthony, in form, size and sculpture, or like *H. radiata*, Mull., as to coloring.

*HELIX DÆDALEA.* Testa parva, discoidea, rubro-castanea, fusco tessellata, costellis radiantibus acutis confertis scabra, subtus acetabuliformis: spira anfr. ad 6 arcuè volutis, duplo altioribus quàm latis, ad peripheriam rotundatis, infrâ haud planulatis: sutura impressa: apertura angusta, verticalis, lunata; fauce lamellis 9 volventibus instructa, quorum 4 ad anfractum penultimum, uno ad columellam, 2 ad basim, 3 ad labium dispositis. Alt.  $\frac{1}{20}$ , lat.  $\frac{1}{10}$  poll. *Hab.* Taheiti, Matea.

Size and color of *H. contorta*, Fer.; but the whorls are more numerous and compact, and there are twice as many lamellæ on the penult whorl. The umbilicus is similar in form to that of the



young *H. bursatella*, only the whorls remain rounded instead of being flattened.

*HELIX OBOLUS.* T. parva, discoidea, deorsum compressa, suprâ planulata, infrâ concava, radiatim minutissimè et inequaliter striata, fusco-ferruginea, picco tessellata: spira anfr.  $5\frac{1}{2}$  suprâ excavatis, ultimo supernè costato-carinato: apertura sub-rhomboida; fauce lamellâ unicâ secundum anfractum penultimum volvente. Lat.  $\frac{1}{5}$ , alt.  $\frac{1}{30}$  poll. *Hab.* Taheiti.

A most singular discoidal shell, resembling *Planorbis vortex*.

*HELIX BURSATELLA.* Testa parva, per-variabilis, rotundata, conica vel planulata, suprâ maculis fuscis et albidis alternantibus flexuosis, tessellata, infrâ cinereo-albida vel flammulis fuscis flexuosis radiata, costis numerosissimis acutis radiantibus lyrata: subius convexiuscula, interdum simplex, interdum concentricè striata, nunc radiatim costellata, nunc albida, nunc fusco flammulata: spira anfr. ad 8 externè excavatis, ultimo carinato; suturâ impressâ, plerumque marginatâ: apertura parva, transversa; fauce cum lamellis 7 volventibus, quorum 2 superiores, 1 columellaris, 4 remotis (1 suprâ, 3 infra carinam) ad labium; labro simplici; umbilico cavernoso, in junioribus acetabuliformi, in majoribus ad januam parvo, constricto, margine acuto, una cum labio continuo. *Hab.* Taheiti and Eimeo.

The above characters are found combined in every possible manner. The variations in size, color, solidity, and umbilicus, may all be reasonably ascribed to differences in age, food, and perhaps to the elevation, between 2000 and 5000 feet, at which they were collected. The armature of the mouth and the peculiar umbilicus, at first broad, and at maturity contracted, or pursed up, so that the flattened edges of the whorls form a large spherical cavity, are the characteristic marks. Two principal varieties may be noticed.

α. Large, elevated, conical specimens, which are without mottling, rib-like striae, or revolving lines beneath. Lat.  $\frac{2}{10}$ , alt.  $\frac{2}{10}$  poll.

β. Smaller, depressed specimens, more or less coarsely ribbed, striated and mottled, both above and beneath. Lat.  $\frac{1}{5}$ , alt.  $\frac{1}{10}$  poll.

*HELIX TUMULUS.* Testa parva, solida, flavida, orbiculato-pyramidata, basi sub-planulata, umbilico modico perforata: spira

elevata, conico-rotundata; anfr. 6-7 convexiusculis, striis perobliquis exaratis, ultimo obtusè ad peripheriam angulato, prope aperturam compresso: apertura parva, transversa, lunata; peristomate simplici. Long.  $\frac{2}{5}$ , alt.  $\frac{7}{10}$  poll. *Hab.* Feejee Islands.

This bears a general resemblance to *H. pyramidata*; but with the same diameter, it is less elevated, and more rounded at apex.

**HELIX TENTORIOLUM.** Testa parva, elevata, trochiformis, ad apicem rotundata, pallidè virescens, obliquè et concinnè striata, basi in umbilicum mediocrem devexâ: spira anfr. 6 planulatis, et carinâ acutissimâ, albâ, cinctis: apertura subtriangularis, basi rotundatâ; labro simplici, ante umbilicum reflexo. Lat.  $\frac{2}{5}$ , alt.  $\frac{3}{10}$  poll. *Hab.* Upolu.

Its elevated form and rounded summit, resembling a nipple, is very remarkable.

**HELIX (CARACOLLA) TROILUS.** Testa variabilis, depresso-conica, sub-discoidea, leviter et obtusè striata, flavescens, subtus convexa, in umbilicum amplum incurvata, carinata; carinâ utroque lineâ spirali castaneâ marginatâ: interdum coloribus inversis: spira anfr.  $5\frac{1}{2}$  rotundatis: apertura semilunaris, supernè angulata; labro acuto. Lat.  $\frac{3}{4}$ , alt.  $\frac{3}{10}$  poll. *Hab.* Samoa Islands.

Is somewhat like *H. explanata*, Quoy, but much smaller and more umbilicated, and differently colored. Not unlike *H. alpina* in form. Some specimens are much elevated; others have the chestnut color with a yellow line; and one has the two bands coalescing and covering the whole periphery.

**HELIX CRESSIDA.** Testa variabilis, solida, depressa, lenticularis, acutè carinata, nitida, densè et acutè striata, coloribus flavo-viridibus et castaneis coalescentibus fasciata, infrâ sub-planulata, umbilico magno et profundo perforata: spira anfr. 5 vix convexis: apertura triangularis; labro acuto; fauce lilacinâ. Lat.  $\frac{7}{10}$ , alt.  $\frac{1}{4}$  poll. *Hab.* Samoa and Taheiti.

In some respects similar to *H. Troilus*, but more lenticular, flatter beneath, the colors are differently disposed, and the surface sculptured with more numerous and much sharper lines. The animal is also different in coloring. Shape very much like *H. acies*, Fer. but flatter beneath and smaller.

**HELIX EURYDICE.** Testa tenuis, depresso-pyramidata, acutissimè carinata, pallidè virens, lineâ castaneâ volvente suprâ et infrâ picta, subtus planulata, umbilico lato et profundo perforata : spira anfr. 5-6 vix convexis, apice rotundato : apertura transversa, acutè triangularis ; labro acuto. Lat.  $\frac{1}{2}\frac{3}{4}$ , alt.  $\frac{1}{4}\frac{1}{2}$  poll. *Hab.* Tongataboo.

Approaches II. *Cressida*, but is much thinner, nearly transparent, of a much smoother texture at surface, flatter beneath, and the coloring seems to be very uniform. The color of the animal is also different. Its shape is almost precisely that of II. *elegans*, though much larger. It is also like H. *planorboides*, Lesson, (II. *solarium*, Quoy), which is very much smaller and destitute of fillets.

**HELIX SUTILISSIMA.** T. minuta, fragilissima, nitidissima, lenticularis, plano-convexa, imperforata : spira planulata, anfr. 5 planis, arcuè volutis ; ultimo acutissimè carinato : apertura — (fracta). Lat.  $\frac{1}{8}$ , alt.  $\frac{1}{16}$  poll. *Hab.* Maui, Sandwich Islands.

This little pellucid shell, though imperfect, is so well marked by its compressed lenticular form, sharp carination and numerous whorls, that I venture to pronounce it a new species.

**HELIX (NANINA) SCORPIO.** Testa rotundata, depressa, rubro-castanea, fasciis radiantibus atro-purpureis tessellata, subtus laud convexa : spira depressa, anfr.  $4\frac{1}{2}$  convexis. Lat.  $\frac{3}{5}$ , alt.  $\frac{2}{5}$  poll. *Hab.* Feejee Islands.

The above characters were drawn from the figure of a shell which looks somewhat like *Cyclostoma tigrinum*. Its inhabitant is most peculiar ; having, besides the usual anal lappet of Nanina covering the mucus pore, six other smaller ones between this and the shell, arranged in a double series along the back.

**HELIX (NANINA) RUIDA.** Testa fragilis, obconica, obliquè striata, epidermide tenui subconcentricè et confertissimè rugosâ induta, coloribus sordidè viridibus marmorata, subtus valdè convexa, perforata : spira anfr.  $4\frac{1}{2}$  planulatis, ultimo supernè angulato : apertura lunata ; labro acuto ad umbilicum reflexo. Lat.  $\frac{1}{2}$ , alt.  $\frac{3}{8}$  poll. *Hab.* Feejee Islands.

The specimens collected appear to be immature, but the peculiar minute wrinkling of the epidermis, somewhat like that on *Planorbis albus* and *hirsutus*, may serve to characterize it.

**HELIX (NANINA) IRRADIATA.** T. conico-globosa, tenuis, imperforata, albida, suprâ purpureo radiatim tessellata, lineis incrementi acutis confertim striata, subtus rotundata : spira anfr. 6 convexis, ultimo sub-angulato : apertura transversa, lunata ; labro acuto, ad columellam incurvato, vix reflexo. Lat.  $\frac{1}{4}$ , alt.  $\frac{3}{8}$  poll. *Hab.* New Holland.

A singularly-colored *Helix*, in shape more like *H. Cubensis* than any other which I recollect. The colors are arranged somewhat like those on *Bulimus vexillum*.

**HELIX (NANINA) RUBRICATA.** Testa globoso-conica, solida, vix perforata, suprâ nitida, rufo-castanea, striis radiantibus gregatim dispositis et striis volventibus decussata, infra glaberrima, livido-castanea, ad centrum declivis : spira anfr. 6 convexis, amplis ; suturâ submarginatâ : apertura semilunaris ; fauce lividâ ; labro simplici, ad columellam reflexo, albo. Lat. 1, alt.  $\frac{2}{3}$  poll. *Hab.* Lebouka, Feejee Islands.

In shape and size like *H. zœleta* and *H. irregularis* ; but in all other respects it is like *H. velutina*, Sowb., to which it is very closely allied. Perhaps it is *H. Nouleti*, Le Guillou.

**HELIX LURIDA.** Testa globoso-conica, depressa, glaberrima, nitida, livido-castanea, infrâ pallescens, ad umbilicum minutum declivis : spira anfr. 6 convexis, radiatim et obtusè striatis, ultimo prope aperturam subangulato ; suturâ impressâ, marginatâ : apertura lunata, fauce lividâ ; labro acuto, ad umbilicum reflexo, albo. Lat. 1, alt.  $\frac{1}{2}$  poll. *Hab.* Feejee Islands.

Groups with the preceding species to which it is very similar, but differs essentially in the want of revolving striæ, its carinated periphery, and light-colored umbilical region. It probably belongs to *NANINA*.

**HELIX CALVA.** Testa tenuis, depresso-globosa, nitida, pallidè stramineo-virescens, arcetè umbilicata : spira anfr. 5 haud turgidis, striis incrementi obsoletis ; suturâ haud impressâ, marginatâ : apertura semilunaris ; labro simplici, acuto, ad umbilicum paulum reflexo. Lat.  $\frac{4}{5}$ , alt.  $\frac{1}{2}$  poll. *Hab.* Feejee Islands.

Similar to the preceding, but smaller and lighter-colored, and is plainly distinguished by its smooth, shining, rounded spire, similar to the summit of *H. Moricandi* or *H. lychnuchus*. This must also be a *NANINA*.



**VITRINA RUIVENSIS** (COUTHOUY MS.) Testa haliotiformis, transversè subquadrata, depressa, papyracea, pellucida, nitida, chlorata, gradibus ætatis striata: spira vix conspicua, anfr. uno rapidè crescente; apice laterali: apertura faciem inferiorem adequans; labro propè spiram membranaceo; columellâ laxè intro spiram volvente et eam penitus exhibente. Lat.  $\frac{2}{40}$ , alt.  $\frac{4}{40}$  poll. *Hab.* Madeira, near the summit of Pico de Ruivo, 6210 feet altitude. A very large and well-marked species.

**VITRINA NITIDA.** Testa depresso-globosa, heliciformis, tenuissima, pellucida, nitidissima, laevigata, succinco-viridis, imperforata: spira anfr. 4 convexis, ultimo amplo; apice subcentrali, prominente; suturâ excavatâ: apertura transversa, subcircularis; peristomate inflexo; columellâ arcuatâ, usque ad apicem perspicuâ. Diam.  $\frac{1}{40}$ , alt.  $\frac{5}{40}$  poll. *Hab.* Madeira, Roche de Empena, 4240 feet elevation. A most elegant and brilliant species.

**VITRINA CAPERATA.** Testa helicoidea, depresso-globosa, ad peripheriam obtusè angulata, tenuis, sub-opaca, striis incrementalibus conspicuis et rugis obliquis ramulosis, præcipuè supernis, exarata, dilutè fulvo-cornea, arcuè perforata: spira anfractibus  $3\frac{1}{2}$  convexis, citò crescentibus; suturâ profundâ; apice subcentrali: apertura sub-circularis; labro simplici, ad umbilicum everso; columellâ, callum simulante, secundum spiram introeunte. Diam. max.  $\frac{2}{20}$ , alt.  $\frac{1}{5}$  poll. *Hab.* Kauai, Sandwich Islands.

A large and substantial species, easily distinguished by the branching wrinkles of the surface, which perhaps answer to blood-vessels.

**VITRINA MARCIDA.** Testa sigaretiformis, tenuis, sub-opaca, flavo-viridis, depresso-orbicularis, tenuiter striata, sub-perforata: spira anfr. ad 3, convexiusculis, ultimo amplo, declivo; apice sub-centrali; suturâ bene impressâ: apertura transversa, elliptica; labro plerumque membranaceo. Diam.  $\frac{2}{40}$ , alt.  $\frac{7}{40}$  poll. *Hab.* Madeira, Roche de Empena; height of 4200 feet.

Differs from *V. Lamarckii*, especially in having more whorls. The animal is still more decidedly different.

**VITRINA TENELLA.** Testa parva, *V. pellucida* simillima, succinea, sub-perforata, gradibus ætatis conspicuis striata: spira

rotundata, apice subcentrali, anfr. 3, convexis, declinantibus; suturâ excavatâ: apertura sub-circularis; labro antrorsum arcuata. Diam.  $\frac{1}{3}$ , alt.  $\frac{1}{11}$  poll. *Hab.* Kauai, Sandwich Islands.

It is larger than *V. pellucida*, more opaque, and the aperture is larger.

**VITRINA ROBUSTA.** Testa helicoidea, transversa, depresso-globosa, sub-valida, polita, perlucida, dilutè flavo-viridis, lineis incrementalibus regularibus, obtusis, striata: spira obtusa, anfr. 3, ultimo magno; apice subcentrali; subtus rotundata: apertura rotundata; margine sinistro supernè reflexo, rimam umbilicalem parvum formante. Diam. max.  $\frac{1}{2}$ , alt.  $\frac{1}{4}$  poll. *Hab.* New South Wales.

This is about the size and form of *V. nigra*, Quoy, and is almost exactly like *V. Freycincti*, Fer. It is more globose and brilliant than *V. marcida*, and seems to be built more firmly than any other species.

**SUCCINEA ROTUNDATA.** Testa parva, tenera, sub-opaca, hemispherica, flavo-virens, concinnè striata: spira ferè nulla, intus aperta, anfr.  $2\frac{1}{2}$ , ultimo amplissimo: apertura circularis, posticè angulata, testam ferè adequans; margine columellari obliquo, subrecto, conspicuè plicato, et callo lato induto. Long.  $\frac{4}{10}$ , lat.  $\frac{7}{20}$ , alt.  $\frac{3}{20}$  poll. *Hab.* Mountains of Oahu, Sandwich Islands.

This, with the two following species, are remarkable for their hemispherical form and large apertures, with the animal much too large for the shell, and belong to *Helicolimax*, Fer. Resembles *S. aperta*, Lea.

**SUCCINEA CEPULLA.** Testa parva, tenuissima, pellucida, nitida, succineo-virens, rotundato-elliptica, depressa, sinistrorsum rotundata, dextrorsum declivis, longitudinaliter striata et liris inequalibus volventibus arata: spira ferè nulla, anfr.  $2\frac{1}{2}$ : apertura amplissima, ovalis, ad basim latè rotundata, ad columellam arcuata, leviter plicata; intus metallica. Long.  $\frac{1}{2}$ , lat.  $\frac{7}{20}$ , alt.  $\frac{1}{5}$  poll. *Hab.* Hawaii.

Depressed and without spire like the preceding, but is larger, more transparent, less spherical, has spiral furrows, and the aperture is peculiarly widened posteriorly by an outward sweep of the lip.

**SUCCINEA PUTANEN.** Testa magna, depressa, globoso-elliptica, tenuis, laevis, striis incrementalibus et striis volventibus tenuiter decussata, fulvo-cornea, ad peripheriam sub-angulata : spira ferè nulla, anfr. vix 2 : sutura linearis : apertura paginam inferiorem ferè adequans, rotundato-ovalis ; margine columellari sub-plicato. Long.  $\frac{5}{8}$ , lat.  $\frac{1}{2}$  poll. *Hab.* Upolu.

A remarkable shell, resembling the half of a bird's egg. Distinguished from *S. rotundata* by its larger size, revolving striæ, and angular periphery.

**SUCCINEA VESICALIS.** Testa tenuissima, fragilis, lucida, latè ovata, depressa, gradibus ætatis undulata, epidermide stramineâ induta : spira anfr. 3, ultimo magno, patulo, alteris spiram parvam formantibus : apertura subovalis, ad basim latè rotundata, longitudinis  $\frac{1}{2}$  equans ; plicâ columellari conspicuâ. Long.  $\frac{1}{10}$ , lat.  $\frac{3}{8}$  ; alt.  $\frac{2}{8}$  poll. *Hab.* Mauna Kea, Hawaii.

About the shape and size of *S. rubescens*. A delicate, very ample species.

**SUCCINEA LUMBALIS.** Testa mediocris, ovato-conica, tenuissima, sublucida, pallidè virens, leviter striata, subtus gibbosa : spira acutè conica ; anfr. 3 convexiusculis, ultimo ventricosus, versus suturam declivi : apertura rotundato-ovata ; columellâ valdè arcuatâ, callo indutâ ; plicâ mediocri. Long.  $\frac{9}{20}$ , lat.  $\frac{5}{20}$ , alt.  $\frac{4}{20}$  poll. *Hab.* Kauai, Sandwich Islands.

Its dull aspect, conical spire and ventricose form are its distinctive marks. It resembles small specimens of *Limna catascopium*, Say.

**SUCCINEA HUMEROSA.** Testa ovata, depressa, sub-rhombea, sublucida, striis incrementalibus rugosa, sulcis raris volventibus interdum arata, dilutè virens, et interdum rubricans : spira anfr. 3, ultimo permagno, posticè sub-angulato : apertura sub-ovalis, posticè amplificata ; labro dextrorsum decurrente ; plicâ columellari conspicuâ. Long.  $\frac{3}{5}$ , lat.  $\frac{3}{8}$ , alt.  $\frac{1}{5}$  poll. *Hab.* Mountains of Taheiti.

About the size of *S. amphibia*, and has a peculiarly broad aperture on account of the outward sweep of the posterior portion of the lip, and may be known by the angular shoulder on the last whorl.

**SUCCINEA CROCAT.** Testa pinguis, sub-solidâ, sub-opaca, ovato-globosa, saturatè crocea, lineis incrementi exilibus et interdum lineis inordinatis volventibus striata : spira brevis, acuta, anfr. vix 3, convexis, suturâ profundissimâ discretis, ultimo ventricoso : apertura magna, rotundata-ovata ; columellâ carinatâ sub-incrassatâ, haud sinuoso : intus calcarea. Long.  $\frac{5}{8}$ , lat.  $\frac{1}{2}$  poll. *Hab.* Upolu.

May be easily known by its large size, inflated form, and its peculiar color. The spire is remarkably contorted.

**SUCCINEA CANELLA.** Testa parva, sub-solidâ, opaca, ovata, impolita, cinnamomea, leviter striata : spira conspicua ; anfr. 3, ventricosis, suturâ valdè constrictâ discretis : apertura parva, ovato-rotunda ; peristomate incrassato, postice sub-continuo ; columellâ arcuatâ, haud plicatâ. Long.  $\frac{1}{3}$ , lat.  $\frac{2}{9}$  poll. *Hab.* Maui, Sandwich Islands.

Very much like *S. avara*, Say, and *S. caduca*, Mighels ; but it is less elongated, more solid, and without a columellar fold.

**SUCCINEA MAGELLANICA.** Testa parva, tenuis, subflexilis, lucida, nitida, intensè virens, rotundato-ovata : spira brevis, acuta, anfr. 3, suturâ profundâ discretis, ultimo amplo, ventricoso : apertura ovata ; margine columellari reflexiusculo, callo tenui supernè munito. Long.  $\frac{1}{3}$ , lat.  $\frac{2}{9}$ , poll. *Hab.* Terra del Fuego.

A small, remarkably short and ventricose species, conspicuous also for its deep grass-green color.

**SUCCINEA MANUANA.** Testa parva, ovata, ventricosa, tenuis, sub-opaca, straminea, longitudinaliter striata et transversè sparsim rugosa : spira obtusa, exserta, anfr.  $2\frac{1}{2}$ , ventricosis, suturâ profundâ discretis : apertura ovato-rotundata, peristomate ad columellam minimè reflexo ; regione umbilicali depressâ, sinuosâ. Long.  $\frac{1}{3}$ , lat.  $\frac{1}{5}$ , poll. *Hab.* Manua.

A small, plump species, resembling *S. Magellanica*, but still more ventricose, and is further distinguished by its pale color and opacity.

**SUCCINEA MODESTA.** Testa mediocris, ovata, tenuis, nitens, diaphana, stramineo-cornea, tenuiter striata, et lineis interruptis volventibus arata, subtus ventricosa : spira reflexa, anfr. 3, ven-



triosis : apertura rotundato-ovata ; columellâ arcuatâ incrassatâ, sub-perforatâ ; plicâ conspicuâ. Long.  $\frac{1}{3}$ , lat.  $\frac{2}{9}$  poll. *Hab.* Upolu.

Like a small *S. campestris*, Say. Differs from the next species by its shorter spire, pale greenish color, and more arcuated columella.

**SUCCINEA VENUSTA.** Testa mediocris, ovata, tenuis, pellucida, nitida, ordinatim striata, epidermide succineâ, interdum virescente induta, subtus gibbosa : spira conspicua, obtusiuscula, anfr.  $2\frac{1}{2}$  rotundatis : apertura ovata, longitudinis testæ duos trientes adequans, posticè angulata ; columellâ obliquâ, absque plicâ. Long.  $\frac{9}{10}$ , lat.  $\frac{1}{4}$ , alt.  $\frac{1}{5}$  poll. *Hab.* Hawaii.

Almost exactly like *S. ovalis*, Say, but is a little more corpulent. It is less elongated than *S. pudorina*, more shining and differently colored.

**SUCCINEA PUDORINA.** Testa elongata, ovato-turrita, tenuis, lucida, striis conspicuis longitudinalibus notata, succineo-rubescens : spira elevata, anfr. 3 cylindræis valdè obliquis et suturâ profundâ discretis composita. Apertura testæ trientes duos adequans, elongato-ovata, angusta : columella obliqua, sub-recta, vix plicata. Long.  $\frac{11}{10}$ , lat.  $\frac{3}{10}$ , alt.  $\frac{1}{5}$  poll. *Hab.* Mountains of Tahiti and Eimeo.

Very much like *S. oblonga*, Drap. It is more slender, the aperture narrower, and the penult whorl nearly twice as long.

**SUCCINEA INFUNDIBULIFORMIS.** Testa acuto-conica, infundibuliformis, ad basim perobliquè truncata, concinnè striata, opaca, viridis : spira obtusa, anfr.  $2\frac{1}{2}$  planulatis, ultimo magno ; suturâ lineari : apertura rotundato-ovata ; margine sinistro inflexo, ad peripheriam carinato. Long.  $\frac{7}{10}$ , lat.  $\frac{7}{20}$  poll. *Hab.* Mountains of Tahiti and Eimeo.

A most remarkable tunnel-shaped species, resembling precisely the sugar-cockles of the confectioners. It is allied to *S. procera*, which has all the outlines a little convex, an amber color, and no inflection of the columellar margin.

**SUCCINEA PROCERA.** Testa magna, elongata, lanceolata, fulvo-cornea, striis incrementalibus crassis rugosa : spira acuta, anfr. 3 perobliquis convexiusculis composita, partem longitudinis fere

dimidiam æquans : apertura ovato-oblongata ; labro posticè decurrente ; columellâ arcuatâ, sub-incrassatâ. Long.  $\frac{7}{10}$ , lat.  $\frac{3}{10}$  poll. *Hab.* Eimeo.

A large, remarkably slender species, of coarse exterior, allied to *S. infundibuliformis*, and much resembling *Limna umbrosa* in form.

**SUCCINEA RUSTICANA.** Testa elongata, ovato-conica, tenuis, pallidè virens, impolita, lineis incrementalibus inequalibus et crassis striata, subtus convexa : spira acuta, anfr. 3 convexiusculis : apertura ovata, quadrantes tres longitudinis adequans ; columellâ arcuatâ, perspicuè plicatâ. Long.  $\frac{1}{2}$ , lat.  $\frac{1}{4}$  poll. *Hab.* Oregon.

**BULINUS ELOBATUS.** Testa solidula, elongato-ovata, longitudinaliter plicoso-striata et lineolis volventibus interruptis corrossa, epidermide sordidè luteo et viridi marmoratâ induta, arcetè umbilicata : spira anfr. 5 convexis, ultimo magno : apertura angusta, sub-elliptica ; labro simplici, obtuso, aurantio ; plicâ columellari perobliquâ. Long.  $2\frac{1}{4}$ , lat.  $1\frac{2}{5}$  poll. *Hab.* Feejee Islands.

Belongs to the same group as *B. fulguratus* and *B. malleatus*, characterized by the large fold on the columella. It is the largest of the three, resembling the former in its sculpture and the coloring of the aperture, and the latter in coloring. It is distinguished by its unreflected lip, its narrow aperture, less conspicuous and more oblique columellar fold, more ventricose and less oblique whorls.

**BULINUS MOROSUS.** Testa crassa, rudis, ovata, albido-cinerea, longitudinaliter striata, arcetè umbilicata ; spira anfr. 5 convexis : apertura subauriculata ; peristomate latissimè revoluta, albo, posticè angulato ; plicâ columellari amplâ. Long.  $1\frac{3}{4}$ , lat. 1 poll. *Hab.* Feejee Islands.

Of the same group as the preceding, but is smaller, more solid and less elegant than its associates. Its want of epidermis and colors, its angular outline and very broad, revolute lip, characterize it.

**BULINUS PROLATUS.** Testa ovoidea, antrorsum angustata, leviter striata, albido-cinerea, fasciis quatuor liturarum ferruginearum cincta : spira ovato-conica ; anfr. 5 convexiusculis : apertura elliptica, totius longitudinis dimidium adequans ; labro sin-

plici, acuto : columella brevis, latè reflexa, alba, umbilicum parvum tegens. Long.  $1\frac{3}{4}$ , lat. 1 poll. *Hab.* Santiago, Chili.

A shell of a remarkably regular, elongated ovoid form, somewhat like *B. Favannii*, only more narrowed anteriorly, and distinguished by its four bands of rusty blotches.

*BULIMUS CILIATUS.* Testa tenuis, ovato-conica, viridis, striis volventibus, ciliis rigidas nunc longas nunc breviores gerentibus, cincta : spira acuta, anfr. 6 convexis, ultimo magno, ventricosus, sub-angulato : apertura sub-ovata, anticè angustata ; labro simplici ; columellâ rectâ, albâ, umbilicum parvum obtegente. Long.  $\frac{9}{10}$ , lat.  $\frac{6}{10}$  poll. *Hab.* Organ Mountain, Brazil.

This shell, with its thick, dark green epidermis, looks like a *Paludina*. *P. velutino-hispidus* of Moricand, another hairy species, is more globular.

*BULIMUS PRUNINUS.* Testa ovato-turrita, solida, leviter striata, livido-purpurea, infra suturam et circa umbilicum albido zonata : spira acuta, anfr. 6, convexiusculis, subtabulatis : apertura modica, ovata ; labro simplici, intus callo stramineo incrassato, ad columellam reflexo ; fauce livido. Long.  $\frac{7}{8}$ , lat.  $\frac{3}{8}$  poll. *Hab.* ?

This is a solid, elongated, peculiar species, probably belonging to South America.

*BULIMUS HYBRIDUS.* Testa crassa, elongato-ovata, polita, castanea, lituris ochraceis admodum obliquè ordinatis maculata : spira anfr. 6 convexis, sub lente spiraliter striatis ; ultimo magno sub-compresso, ad basim obliquè carinato et rimâ umbilicali perforato : apertura angustata, elongato-elliptica, anticè angulata et canaliculata ; labro crasso, latè reflexo, rubro-purpureo ; fauce roseo. Long.  $1\frac{3}{4}$ , lat.  $\frac{5}{8}$  poll. Vicinity of Rio Janeiro.

A beautiful shell, intermediate between *B. gonistoma* and *B. multicolor*, having the aperture of the former, and the size, form and marking of the latter.

*BULIMUS JUNCUS.* Testa parva, elongato-conica, tenuis, translucida, dilutè virens, concinnè striata, vix perforata : spira ad apicem obtusa ; anfr. 7, convexiusculis, supernè con-tabulatis : apertura elongato-ovata ; labro simplici, ad columellam vix reflexo. Long.  $\frac{3}{10}$ , lat.  $\frac{1}{10}$  poll. *Hab.* Society and Sandwich Islands.

A delicate, slender shell, varying a good deal in size, and closely allied to, if not the same as *B. clarula*, Quoy, *B. bacterionides*, D'Orb., and *B. octonoides*, Adams, from the West Indies. Perhaps it is a species attached to the plantain, cocoa-nut, or some other wide-spread tropical plant.

**PARTULA CONICA.** Testa elongato-conica, interdum sinistrorsa, flavida vel castanea, leviter striata et lineis crebris volventibus decussata, latè perforata : spira elevata, acuta, anfr. 6 ventricosis, ultimo permagno ; suturâ impressâ, albidâ : apertura obliqua, ovalis ; peristomate albo vel rosaceo, latè reflexo, sub-planulato. Long.  $1\frac{1}{10}$ , lat.  $\frac{1}{20}$  poll. *Hab.* Samoa Islands, Raraka Island.

Larger than any species hitherto described, and resembling *Bulimus lævis* in form. It may possibly be *P. bulimoides*, Lesson.

**PARTULA ZEBRINA.** Testa variabilis, ovata, tenuis, alba, flava vel fulva, plerumque strigis longitudinalibus flexuosis albis variegata, spiraliter tenuistriata, umbilico rimato perforata : spira anfr. ad 5 rotundatis, ultimo ventricoso : apertura elliptica, peristomate albo, latè reflexo, planulato ; plicâ columellari magnâ. Long.  $\frac{8}{10}$ , lat.  $\frac{1}{2}$  poll. *Hab.* Tutuilla, Samoa Islands.

A rather large and very fine species, more ventricose than others, and distinguished by its perfectly flattened peristome, as well as by its variegated coloring and revolving striæ.

**PARTULA PUSILLA.** Testa parva, elongata, conica, polita, albidocornea, perforata : spira acuta, anfr. 6 convexis, supernè tabulatis : apertura sub-quadrata, posticè lamellâ intro-volvente instructa ; peristomate reflexo, dextrorsum sinuato. Long.  $\frac{3}{10}$ , lat.  $\frac{1}{40}$  poll. *Hab.* Matea Island, under stones.

This little species bears all the characters of the group, and is by far the most minute species yet described.

**PUPA (Vertigo) TANTILLA.** Testa minima, sub-ovalis, albida, perforata : spira obtusa ; anfr. 4 convexiusculis, supernis sub-clathratis, ultimo exiliter rugoso-granulato : apertura sub-rotunda, peristomate everso ; fauce dentibus 5 armato, quorum uno columellari, uno basali, uno labiali et duobus posticis. Long.  $\frac{1}{15}$ , lat.  $\frac{1}{20}$  poll. *Hab.* Taheiti, 2000 feet elevation.

About the shape and size of *P. Gouldii*, and with the same



number of teeth, but has two of them on the transverse lip, instead of on the columella.

**PUPA PECONUM.** Testa minuta, variabilis, ovata, plus minusve elongata, tenuis, lucida, nitida, fulvo-cornea, perforata: spira anfr. 6 convexis leviter striatis: apertura ovato-rotundata, posticè lamellam volventem gerens; labro simplici, ad columellam plerumquè late revoluta; columellâ vel nudâ vel lamellis transversis 1-3 instructâ. Long.  $\frac{3}{8}$ , lat.  $\frac{3}{10}$  poll. *Hab.* Sandwich Islands; very abundant on pumpkin vines.

This interesting little shell is of somewhat doubtful genus. It may prove to be of the genus Tornatellina or Elasmatina. Its very variable characters render a decision difficult. But it belongs to the old genus Pupa, where I at present place it.

**PUPA (Megaspira) ELATA.** Testa sub-cylindrica, elevata, tenuis, nitida, striis conspicuis lirata, cornea, lituris parvis sparsis propè suturam notata, vix perforata: spira obtusa, anfr. 19 angustis sub-planulatis: apertura parva, obliqua, lunata, anticè sub-effusa posticè lamellam volventem gerens; plica columellari modicâ, bilamellata. Long.  $1\frac{1}{2}$ , lat.  $\frac{1}{3}$  poll. *Hab.* Brazil.

Compared with *P. elatior* it is smaller, more cylindrical, more delicately striated, more shining, the whorls more crowded, being as 19 to 16 in the same space, the columella smaller and with one fold less, the lip effuse and the umbilicus much smaller.

**BALEA PEREGRINA.** Testa parva, sinistrorsa, elongata, sub-fusiformis, solida, opaca, rufo-cinerea, vix striata, perforata: spira ad apicem mamillata; anfr. 8, planulatis, sub-tabulatis; suturâ lineari, profundâ: apertura sub-quadrata; peristomate continuo, æquato, leviter reflexo. Long.  $\frac{3}{8}$ , lat.  $\frac{1}{10}$  poll. *Hab.* New Zealand.

I have referred this shell to the genus *Balea* with much hesitation, on account of its locality. It is remarkable for its fusiform, turreted shape, and for the high walls of its aperture, which rise to a level with the surface of the shell.

**ACHATINELLA MARMORATA.** Testa oblongo-ovata, coloribus castaneis, cinereis, et albidis marmorata, leviter striata, imperforata: spira acuta, anfr. 6 convexis, supernè sub-tabulatis, ultimo magno, ventricoso: apertura ovata; peristomate simplici, mo-

dicè evaso ; plicâ columellari albâ, compressâ, ferè transversâ, valdè exstante. Long.  $\frac{7}{8}$ , lat.  $\frac{1}{2}$  poll. *Hab.* Haleakala Mountains, Maui, Sandwich Islands.

A large ventricose species, readily distinguished by its variegated coloring.

*ACHATINELLA ELLIPSOIDEA.* Testa solida, ellipsoidea, lævis, epidermide luteo interdum fusco zonato induta : spira anfr. 6, convexiusculis ; suturâ impressâ : apertura parva, angusta ; peristomate acuto, nigro ; plicâ columellari ferè transversâ, tenui. Lat.  $\frac{7}{10}$ , alt.  $\frac{7}{10}$  poll. *Hab.* Maui.

Closely allied to *A. microstoma*, which has a thickened lip, and a more dead, striated surface.

*ACHATINELLA ACUMINATA.* Testa parva, elongata, turrita, lucida, glaberrima, nitida, succinea ; spira elevata, anfr. 6 obliquis, convexiusculis, ultimo trientes duo longitudinis equante : apertura angusta, sub-elliptica, peristomate albido, incrassato, prorsum arcuato ; columellâ truncatâ, sed vix plicatâ. Long.  $\frac{19}{40}$ , lat.  $\frac{1}{8}$  poll. *Hab.* Kauai, Sandwich Islands.

More elongated, and with more oblique whorls than other species. In its form, color and clearness, it may be compared with *Physa hypnorum*.

The clear, delicate species like this, with the mere semblance of a columellar fold, may properly constitute a distinct group, to which the name *Leptachatina* (*λεπτος* and *Achatina*) might be given.

*ACHATINELLA CEREALIS.* Testa parva, elongata, cylindraco-conica, impolita, cinereo-castanea : spira obtusa, anfr. 7-8 planulatis, ultimo trientem longitudinis vix superante : apertura parva, lunata, quadrantem longitudinis adequans ; peristomate simplici, intus incrassato ; plicâ columellari obsoletâ, anfractu penultimo callo induto. Long.  $\frac{3}{8}$ , lat.  $\frac{1}{8}$  poll. *Hab.* Waianai, Oahu.

In size, form and color it resembles *Bulimus hordeaceus*, but it is still more slender.

*ACHATINELLA GUTTULA.* Testa parva, tenuis, lucida, rotundato-ovata, succinea, interdum castaneo zonata : spira obtusa, anfr. 6 convexiusculis ; ultimo tumido, dimidiam longitudinis superante. Apertura parva, lunata ; peristomate albo, incrassato,

ad basim valdè truncato; columellâ curtâ, plicâ parvâ instructâ, ad anfractum penultimum callo indutâ. Long.  $\frac{1}{8}$ , lat.  $\frac{3}{16}$  poll. *Hab.* Maui, Sandwich Islands.

One of the smallest, and proportionally the shortest of the group, its length being but little greater than its breadth. It is much more ventricose and less solid than *A. accincta*, Mighels.

*HELICINA FULGORA.* Testa parva, lenticularis, acutè carinata, glabra, dilutè castanea, lineolis radiantibus angulato-flexuosis, propè suturam et ad carinam dilatatis, picta: spira depresso-conica, acuta; anfr. 5-6 planatis: apertura lata, semilunaris; peristomate reflexo, flavido, ad basim rectangulari; columellâ rectâ, callo modico albido indutâ. Lat.  $\frac{9}{40}$ , alt.  $\frac{5}{40}$  poll. *Hab.* Islands of Upolu and Manua, among bananas.

This species, with *H. laciniosa*, and *H. musiva*, belong to the same group with *H. flammea*, Quoy. These are smaller, and more globular; the first has no reflected lip and the second no radiations beneath.

*HELICINA MUSIVA.* Testa parva, solidula, sub-globosa, polita, rufo-viridis, supra lineolis flexuosis albidis radiata: spira anfr. 4 rotundatis: apertura lunata; peristomate reflexo, albido, ad basim rectangulari; columellâ rectâ. Lat.  $\frac{3}{20}$ , alt.  $\frac{1}{10}$  poll. *Hab.* Islands of Manua and Upolu, among plantains.

Closely allied to the preceding, but smaller, more globular, not carinated, and destitute of radiated coloring beneath.

*HELICINA TROCHLEA.* Testa minuta, trochiformis, supra cinerea, costis acutis volventibus 3 vel 4 (intervallis concavis, scabrosis) cincta, infra convexa, polita, citrina: spira anfr. 4, ultimo ad peripheriam bicarinato: apertura sub-trigona; peristomate leviter reflexo; columellâ ad basim angulatâ, callo copioso indutâ. Lat.  $\frac{1}{8}$ , alt.  $\frac{3}{40}$  poll. *Hab.* Matea Island.

It has the size and nearly the form of *H. rupestris*, Pfeif., and is distinct from all others by its well-marked, sharp, revolving ribs.

*HELICINA MULTICOLOR.* Testa parva, solidula, conico-globosa, tenuissimè striata, citrina, interdum fusco-fasciata, vel omnino fusco-rubra, subtus convexa: spira anfr. 4 convexiusculis, ultimo ad peripheriam rotundato; suturâ impressâ: apertura lunata, lata; peristomate simplici, acuto, ad basim obtusè angulato; colu-

mellâ expansâ, callo copioso indutâ. Lat.  $\frac{3}{20}$ , alt.  $\frac{1}{10}$  poll. *Hab.* Tongataboo.

A very delicate species, and one of the smallest known, and principally remarkable for its variable coloring.

*HELICINA UBERTA.* Testa parva, solida, sub-globosa, lævis, dilutè citrina; spira anfr. 4; suturâ impressâ: apertura parva, semilunaris, extrinsecus constricta; peristomate simplici, vix reflexo; columellâ callo flavo copiosissimo, haud appresso, indutâ. Lat.  $\frac{7}{40}$ , alt.  $\frac{3}{20}$  poll. *Hab.* Maui, and Oahu Mountains.

Very remarkable for the abundant golden yellow callus which forms a tongue-like projection across the base of the shell.

*HELICINA BERYLLINA.* Testa solidula, depresso-conica, infra convexa, ad peripheriam obtusè angulata, polita, albido-virens: spira anfr. 5 planulatis, ultimo cito crescente; suturâ lineari: apertura magna, transversè semi-elliptica; peristomate simplici; callo columellari latè expanso. Lat.  $\frac{1}{2}$ , alt.  $\frac{3}{8}$  poll. *Hab.* Feejee Islands.

Rather large as to size, and remarkable for its delicate beryl-green tint and polished surface. The outer whorl enlarges very rapidly. In form it resembles *H. similis*, Sowb.

*HELICINA PALLIDA.* Testa lenticularis, solidiuscula, luteo-cinerea, inequaliter striata, epidermide tenuissimâ induta: spira depressa; anfr. 5 acutè carinatis, planatis: apertura semilunaris, ad columellam callosa; labro modicè reflexo. Lat.  $\frac{3}{10}$ , alt.  $\frac{3}{20}$  poll. *Hab.* Feejee Islands.

Resembles somewhat *H. miniata*, Lesson, which is more solid, polished, lip simple, suture double. In shape and color it is like *H. oxytoma*, Gray, but is smaller, and the lip not angular at the carina.

*CYCLOSTOMA TIARA.* Testa solida, turbinata, rudis, distorta, sordidè alba, latè umbilicata: spira anfr. 5 laxis, rotundatis, spiraliter liratis, supernis undulatis; inter liros lineis incrementalibus confertè clathratis: apertura circularis, peristomate simplici. Lat.  $\frac{3}{4}$ , alt.  $\frac{1}{2}$  poll. *Hab.* Upolu.

This rather large species stands at the head of a group of rude and very variable species from the Pacific Islands. They have a bony structure, are coarsely indented, and grooved spirally, often have the whorls nearly disjoined, and the umbilicus so large as to approximate to *Solarium*.



**CYCLOSTOMA STRIGATUM.** Testa solida, orbiculato-conica, pallidè beryllina, supra costulis cingulata, infra sub-planulata, umbilico amplo et carinâ acutâ impendente limitato perforata: spira anfr. 5 convexis, suturâ benè discretis, ultimo propè aperturam despecto, ferè disjuncto: apertura circularis; peristomate simplici, everso, acuto. Lat.  $\frac{9}{10}$ , alt.  $\frac{3}{10}$  poll. *Hab.* Upolu.

Not half so large as the preceding, and may be known by its uniform fluting, its sub-globose form, its plain, flattened base, and ample tunnel-shaped umbilicus, margined by an overhanging carina.

**CYCLOSTOMA PLICATUM.** Testa parva, solida, rudis, pyramidata, cinereo-virens, plicis confertis obliquis rugata, et striis minutis volventibus cincta: spira acuta, anfr. 6 rotundatis et suturâ benè discretis, ultimo ad peripheriam rotundato; infra convexa et umbilico modico acutè marginato perforata: apertura circularis; peristomate simplici. Lat.  $\frac{2}{5}$ , alt.  $\frac{2}{5}$  poll. *Hab.* Upolu.

Differs from the preceding in its more elevated, acutely conical form, its plaited whorls without prominent revolving lines, its rounded periphery and base, and its more contracted umbilicus. The young are discoidal, without folds, but with somewhat nodular spiral lines and bright beryl-green color.

**CYCLOSTOMA OBLIGATUM.** Testa parva, crassa, sub-globosa, cinerea, arcuè perforata, utrinque sulcis et costulis acutis sub-crenulatis equalibus cincta, et lineis incrementi subtilissimis striata: spira acuta, anfr. 5 rotundatis: apertura parva, ovata; peristomate simplici, crasso. Lat.  $\frac{5}{16}$ , alt.  $\frac{3}{8}$  poll. *Hab.* Matea.

Still smaller than *C. rugatum*, and remarkable for its solid structure, its coarse alternate ridges and grooves, and its small ovate aperture. It looks not unlike some specimens of *Littorina rudis*.

**CYCLOSTOMA DIATRETUM.** Testa planorboidea, albido-cornea, supra costis distantibus, ad intervallos cincinnè clathratis, angulata, latè umbilicata: spira planulata, anfr. 4 cylindræis, rapidè crescentibus, propè suturam decliventibus: apertura circularis; peristomate simplici. Lat.  $\frac{2}{5}$ , alt.  $\frac{1}{5}$  poll. *Hab.* Sandalwood Bay, Feejee Islands.

Answers very nearly to the description of *C. orbella*, Lk. The

whorls increase more rapidly, the costæ are more distant above, and the umbilicus is less broad and open.

**CYCLOSTOMA ROSEUM.** Testa parva, solida, elevato-conica, glabra, pallidè rosea : spira acuta, anfr. 6 convexiusculis, supra arcè tabulatis ; suturâ benè impressâ : apertura spiram haud equans, ovata ; peristomate eversa, acutâ ; fissurâ umbilicali costâ circumambiente finitâ. Lat.  $\frac{1}{5}$ , alt.  $\frac{7}{10}$  poll. *Hab.* Feejee Islands.

This shell, with several others from the Pacific Islands, forms a group characterized by their slender, elevated form, and the rib which circumscribes the umbilical region. It is more deeply and uniformly colored than *C. rubens*, Quoy, which is also smaller, thinner, and has a much larger umbilicus.

**CYCLOSTOMA TEREBRALE.** Testa parva, turrita, acuminata, flavida vel dilute cornea, lævigata, umbilico rimato circumvallato perforata : spira elevata, acuta, anfr. 6-8 convexiusculis, anticè sub-angulatis, sese partim obtegentibus ; suturâ impressâ ; apertura sub-rotunda, posticè angularis, campanulata ; peristomate simplici, anfractui penultimo latè adnato. Lat.  $\frac{1}{10}$ , alt.  $\frac{1}{4}$  poll. *Hab.* Tahiti and Eimeo.

Distinguished from allied species by its acuminate spire, angular, imbricated whorls and expanded aperture. It bears a general resemblance to *Pupa fallax*, Say.

**CYCLOSTOMA VALLATUM.** Testa parva, solida, elongato-conica, lucida, fusco-cornea : spira anfr. 6 convexis, sub-angulatis, ultimo costâ validâ umbilicm ambiente munito ; suturâ profundâ : apertura obliquè ovata ; peristomate continuo, simplici, campanulato. Lat.  $\frac{1}{8}$ , alt.  $\frac{1}{5}$  poll. *Hab.* Tongataboo.

**CYCLOSTOMA SCITULUM.** Testa parva, elongato-conica, tenuis, rufo-cornea, striis incrementi tenuibus solum insculpta, arcè umbilicata : spira elevata, anfr. 6-7 rotundatis, supernis sub-angulatis ; suturâ profundâ : apertura rotundato-ovata, parva, trientem longitudinis adequans ; peristomate simplici, pallido. Long.  $\frac{1}{5}$ , lat.  $\frac{1}{10}$  poll. *Hab.* Tahiti and Eimeo, Manua.

Almost exactly like *Amnicola Sayana*, Anth. It is larger and more ventricose than *C. vallatum*, and is distinguished from *C. terebrale* by its less slender form and unexpanded lip.

**TRUNCATELLA AURANTIA.** Testa parva, decollata, conico-cylindræa, aurantia, sub-perforata, longitudinaliter confertim

clathrata; clathris elevatis, rectis, numero ad 40 in singulis anfractibus: spira anfr. 5 convexis: apertura obliqua, ovata; peristomate albo, continuo, reflexo. Long.  $\frac{3}{10}$ , lat.  $\frac{1}{10}$  poll. *Hab.* Mangsi Island, Borneo.

Its principal characters are its large size, very convex whorls, and very numerous bars. *T. Caribbaeorum*, Sowb. is often of the same color, but is more robust, the whorls less convex and the bars less numerous and less elevated.

**TRUNCATELLA VITIANA.** Testa decollata, conico-cylindracea, solidula, flavido-cinerea; spira anfr. superstitibus 4-5 planiusculis, costulis subrectis, elevatis, obtusis ad 30 clathratis: apertura obliqua, rotundato-elliptica; peristomate expanso, continuo, anfractui penultimo haud adnato, costâ marginato quæ posticè ad suturam producta est; operculum laminatum. Long.  $\frac{3}{10}$ , lat.  $\frac{1}{10}$  poll. *Hab.* Feejee Islands.

One of the largest species, though it varies greatly in size. It is especially distinguished by the peculiar mode in which the lip forms its junction posteriorly. The bars also become fused posteriorly, so that the intervening flutings do not always reach the suture. It differs from *T. aurantia* in color, is more solid, and the bars are less numerous.

**TRUNCATELLA PORRECTA.** Testa parva, elongata, sub-cylindrica, decollata, albida; spira anfr. superstitibus 4 convexis, clathris humilibus acutis ad 16 instructis, ad intervallos minutissimè et longitudinaliter striatis: apertura rotundato-lunata, anfractui penultimo latè sejuncta; peristomate continuo, extrorsum expanso: operculum laminis arrectis radiantibus eccentricis ornatum. Lat.  $\frac{3}{40}$ , alt.  $\frac{1}{4}$  poll. *Hab.* Tahiti.

The distinguishing marks are, its slender form, unusually convex whorls, and the protrusion of the last whorl.

**TRUNCATELLA ROSTRATA.** Testa parva, conico-cylindracea, nitida, decollata, incarnata, obliquè clathrata; clathris ad 12 robustis: spira anfr. 5 convexiusculis: apertura parva, obliquè ovata; peristomate continuo, crasso, albido, duplici, reflexo. Lat.  $\frac{3}{40}$ , alt.  $\frac{2}{40}$  poll. *Hab.* Rio Janeiro.

In size and color it is much like *T. Cumingiana*, Adams, which is still smaller, has only 8 bars, which are whitish, more elevated and acute. The secondary lip gives the base of the shell, when viewed in profile, a rostrated appearance.

**ANCYLUS ADUNCUS.** Testa exigua, obliquè conica, viridula, striis radiantibus et striis concentricis decussata; apice acutâ, valdè incurvatâ: apertura ovato-rotundata. Long.  $\frac{1}{5}$ , lat.  $\frac{2}{10}$ , alt.  $\frac{1}{10}$  poll. *Hab.* Mountain streams, Madeira.

Closely resembles *A. fluviatilis*, and probably still more *A. radiatus*, Gùilding.

**DOMBEYA FASCIATA.** Testa ovata, tenuis, ferrugineo-virens, fusco spiraliter fasciata, creberrimè plicato-striata et lineis volventibus minimis decussata; spira acuta; anfr. 6 ventricosis; sutura pallida, marginata: apertura semilunaris; columella alba, plicâ acutâ instructa. Long.  $\frac{3}{4}$ , lat.  $\frac{3}{8}$  poll. *Hab.* River Concon, Chili.

Allied to *Chilina fluctuosa*, D'Orb., but is more regular in form, more ventricose and more solid; and is noted for its very minute revolving lines, its bands, and its pale suture.

**DOMBEYA OBOVATA.** Testa obovata, solidula, pallidè olivacea, longitudinaliter colore saturiori fulguratim virgata: spira curta, anfr. 6, convexis, ultimo magno, antrorsum attenuato, posticè sub-angulato: apertura magna, elongato-ovata; columellâ albâ, sub-rectâ, benè plicatâ: interior livescens. Long.  $\frac{7}{8}$ , lat.  $\frac{1}{2}$  poll. *Hab.* Concon River, Chili.

In size and marking it is similar to *C. major*, Gray, but is less broad, and the suture much less impressed. It is much larger and more ventricose posteriorly than *C. pulchra*, D'Orb., and much less pictured.

**LIMNEA VOLUTATA.** Testa parva, tenuissimè striata, fulva, cylindraceo-ovata: spira decollata; anfr. 2-3 superstitibus obliquis, convexiusculis; suturâ modicâ: apertura ovata, dimidiam testæ superans; columellâ rufâ, valdè sinuatâ. Long.  $\frac{3}{10}$ , lat.  $\frac{1}{5}$  poll. *Hab.* Oahu.

Much smaller than *L. Oahuensis*, Souleyet, and with less tumid whorls, sloping gently to the suture. The somewhat cylindrical aspect of the shell is peculiar.

**LIMNEA LEPIDA.** Testa gracilis, elongata-conica, fragilis, dilutè cornea, striis volventibus remotis et striis incrementalibus undulosis decussata: spira acuminata; anfr. 5 obliquis, convexiusculis: apertura magna, semilunaris, expansa; plicâ columellari



pernotabili, acutâ. Long.  $\frac{3}{8}$ , lat.  $\frac{1}{8}$  poll. *Hab.* Lake Vancouver, Oregon.

Allied to *L. pallida*, Adams, but is more delicate, more acutely pointed, the aperture much larger, the lip expanded, and the surface peculiarly decussated. The whorls are much more oblique and less rounded than in *L. desidiosa*.

*PLANORBIS OPERCULARIS.* Testa parva, valdè depressa, castanea, supra planulata; apice depressâ: subtus convexa, latè umbilicata, ad peripheriam marginata et obtusè carinata; spira anfr. 4, suturâ benè impressâ sejunctis; apertura transversa, sub-rhomboidæa. Long.  $\frac{1}{4}$ , lat.  $\frac{1}{16}$  poll. *Hab.* Rio Sacramento, Upper California.

Resembles *P. excavatus*, Say, but is larger, less compressed and less delicate: and the periphery instead of being acutely edged, has a blunted keel like *P. carinatus*.

*PLANORBIS VERMICULARIS.* Testa parva, fornicata: spira planulata, apice depresso, anfr. 4, cylindræis, ultimo propè aperturam deflexo: subtus concava; apertura perobliqua, elliptica. Lat.  $\frac{1}{5}$ , alt.  $\frac{1}{15}$  poll. *Hab.* Interior of Oregon.

About the size and form of *P. deflectus*, Say, but is less depressed, the whorls more cylindrical, and not compressed at the periphery.

*PHYSA TABULATA.* Testa ovata, sub-solidâ, impolita, fuliginosa; spira anfr. 4-5 ventricosis, supernè angulato-carinatis, latè tabulatis: apertura elliptica, dimidiam testæ longitudinis superans; columellâ albidâ, vix plicatâ; fauce fusco-castaneo. Long.  $\frac{7}{10}$ , lat.  $\frac{4}{10}$  poll. *Hab.* New Zealand.

Not to be mistaken for any other species. It is very much more angular than *P. ancillaria*, and the keel upon the angle, when closely examined, is found to be minutely crenulated. *P. variabilis*, Gray, has the lower instead of the upper part of the whorl angular and keeled.

*PHYSA GIBBOSA.* Testa obovata, tenuis, glabrata, luteo-cornea: spira acuminata, anfr. 5 rotundatis, ultimo posticè valdè gibboso, anticè attenuato; apertura angusta, subovalis, trientes duæ longitudinis adequans; columellâ sinuatâ, callo indutâ. Long.  $\frac{6}{8}$ , lat.  $\frac{3}{8}$  poll. *Hab.* New South Wales.

The resemblance to *P. ancillaria*, in the younger specimens, is very striking; the older ones are more like *P. tabulata*, but the last whorl is merely gibbous and not angular. *P. Novæ Hollandiæ* is somewhat similar, but is much more elongated, and neither angular nor gibbous.

**PHYSA SINUATA.** Testa parva, ovata, cornea, arcuatim striata: spira acuta; anfr. 5 rotundatis posticè sub-angulatis; suturâ profundâ: apertura obovata, angusta, anticè sub-effusa, posticè emarginata; labro antrorsum arcuato; columellâ incrassatâ, sub-perforatâ, reflexâ. Long.  $\frac{1}{2}$ , lat.  $\frac{1}{4}$  poll. *Hab.* Feejee Islands.

Remarkable for its thickened inner lip, and for the advancing outer lip and consequent posterior sinus and arched striæ of growth, found in no other species except *P. gibbosa*.

**PHYSA RETICULATA.** Testa tenuis, elongata, ovato-conica, fulva, striis subtilissimis decussata: spira anfr. 4-5 ventricosis; suturâ per-profundâ: apertura obovata, dimidiam testæ longitudinis vix superans; columellâ rufâ, valdè plicatâ. Long.  $\frac{7}{16}$ , lat.  $\frac{7}{16}$  poll.; of another, long.  $\frac{1}{2}$ , lat.  $\frac{1}{4}$  poll. *Hab.* Sandwich Islands.

Remarkable for its general color, the color of the pillar lip, its decussated surface, and its very tumid whorls. Its form is so much like that of a reversed *Limnea*, that I am strongly inclined to believe it to be one. Probably the *Limnea Oahuensis*, Souleyet, (Voy. de la Bonite,) is the same; but unfortunately the animal there given is so indefinitely figured as to leave it doubtful whether it is really a *Limnea* or a *Physa*.

**PHYSA VIRGINEA.** Testa elongato-ovata, tenuis, fragilis, lucida, nitida, alba: spira acuta, anfr. 5 convexis, posticè subangulatis: apertura elongata, obovata, posticè acuta; columella leviter plicata. Long.  $\frac{3}{5}$ , lat.  $\frac{5}{16}$  poll. *Hab.* Rio Sacramento, California.

The porcelain-like structure and color of the specimens seems not to be merely the effect of bleaching. It is one of the most elongated species, but less slender than *P. hypnorum* and more like *P. gyrina* or *P. rivalis* in form, but is a far more delicate shell.

**PHYSA VENUSTULA.** Testa parva, ovata, pellucida, nitida, dilutè cornea: spira elevata, anfr. 5 ventricosis, posticè subangulatis: apertura ovata; columellâ validâ, albidâ, valdè sinuatâ. Long.  $\frac{3}{16}$ , lat.  $\frac{3}{16}$  poll. *Hab.* Lima.

Closely resembles small specimens of *P. heterostropha*, though in size and texture it is like *P. fontinalis*, which has a much shorter spire.

**MELANIA CYBELE.** Testa ovata, turrita, crassa, fuliginosa, epidermide velutino induta; spira ad apicem valdè erosa, anfr. superstit. ad 3 planulatis, supernè tabulatis, et pinnis curtis acutis arrectis ordinatim dispositis, coronatis: apertura angusta, elongato-ovalis, posticè angulata; intus livida. Long. 1, lat.  $\frac{5}{8}$  poll. *Hab.* Feejees, Navigators, &c.

Probably confounded with *M. amarula*. That shell is lighter colored, shorter, smoother and destitute of the velvety epidermis: the spines are less numerous, longer and sharper and stand out somewhat from a vertical position: in this species they resemble mural battlements.

**MELANIA TETRICA.** Testa oblonga, turrita, ponderosa, fusca, liris paucis cincta: spira truncata, anfr. superstitibus 3-4 convexiusculis, posticè sub-angulatis et spinis validis acutis 5 ad basim decurrentibus armatis, interdum muticis: sutura profunda: apertura arcuè elliptica; intus livida. Long.  $1\frac{1}{4}$ , lat.  $\frac{5}{8}$  poll. *Hab.* Feejee Islands.

More slender than the preceding, and with more convex whorls. It has nearly the same form as *M. bellicosa*, Hinds, but is larger and has fewer spines. It is especially distinguished by its few stout spines directed outwards.

**MELANIA TERPSICHORE.** Testa elongato-turrita, solidula, olivacea, plagis flexuosis fuscis picta, longitudinaliter creberrimè plicata, et liris elevatis versus basim crescentibus cincta: spira elevata, ad apicem erosa, anfr. 4 posticè subangulatis: apertura angusta, elliptica, testæ longitudinis trientem adequans; intus cærulescens. Long. 1, lat.  $\frac{2}{3}$  poll. *Hab.* Feejee and Samoa Islands.

Of the same group as the preceding, but more slender, and remarkable for the lyrate appearance produced by its numerous folds, decussated by revolving lines, one of which, more conspicuous than the rest, forms a sort of beaded angle.

**MELANIA COROLLA.** Testa parva, ovato-conica, fusca: spira acuta, anfr. ad 6 ventricosis, posticè constrictis, angulo submedi-

ano aculeos numerosos ordinatim radiantes gerente, instructis; suturâ haud impressâ: apertura rotundata; labiis continuis. Lat.  $\frac{2}{10}$ , alt.  $\frac{3}{10}$  poll. *Hab.* Banks' Peninsula, New Zealand.

This beautiful little shell, somewhat resembling *M. spinulosa*, is readily recognized by its coronets of numerous small radiating prickles on the angles of the whorls.

**MELANIA LUTOSA.** Testa crassa, elongato-turrita, striis tenuibus cincta, fusco-castanea, et crustâ lævi, lutosâ, crassâ, rubiginosâ, omnino oblecta: spira anfr. 7 superstitibus convexis; suturâ profundâ: apertura obovata, vix effusa, peristomate rufo limbato; fauce livido: operculum crassum, osseum, subspirale. Lat.  $\frac{1}{2}$ , alt.  $1\frac{3}{4}$  poll. *Hab.* Upolu.

This simple and graceful shell, resembling in form *M. Virginia* or *M. decollata*, is easily distinguished by the dark brown margin of the aperture. It is remarkable for the thick crust of mud with which it is covered, and which is so smooth and brown externally, as to seem like the natural surface of the shell. A glance at the tip reveals its real nature.

**MELANIA CORPOROSA.** Testa subulato-conica, decollata, nitida, olivaceo-castanea, juxta suturam cerina, striis plerumque minimis decussata: spira anfr. ad 5 convexiusculis; suturâ profundâ et marginatâ: apertura angusta, pyriformis, anticè vix producta; intus livida; columellâ albidâ. Long.  $1\frac{1}{2}$ , lat.  $\frac{1}{2}$  poll. *Hab.* Taheiti.

Very nearly the same shape as *M. lutosa*, but is distinguished by its clean, shining, minutely reticulated surface, its pale sutural region, and its narrower aperture, destitute of the deep brown limbus.

**MELANIA SCIPIO.** Testa magna, solida, lanceolata, truncata, picea, sursum rufescens et flammulis longitudinalibus fuscis magis ac magis picta (juvenibus valdè subulatis et epidermide tomentoso quoque indutis) creberrimè et minutissimè decussato-striata: spira anfr. superstitibus 4-5 (integris 12-15) planulatis, obliquis; suturâ impressâ et marginatâ: apertura triangularis, valdè effusa, posticè sub-canaliculata; regione columellari tumido; columellâ planulatâ, acutâ, albâ: intus plumbea. Long.  $1\frac{1}{2}$ , (integer 3) lat.  $\frac{1}{2}$  poll. *Hab.* Samoa and Feejee Islands.

About the size and form of *M. funiculus*, Quoy, but has a longer and more acute aperture. *M. aspirans*, Hinds, is still



larger and more solid, less convex whorls, a darker and less variegated surface. Besides its dark pitchy color changing towards the tip to flammulated fawn color covered by a velvety epidermis, it may be known by its minute, close set revolving lines.

**MELANIA VAINAFA.** Testa elongato-conica, lævis, badia (junioribus herbaceis et lineolis flexuosis fuscis pictis) : spira decollata, anfr. 4-5 superstitibus, subplanulatis, ultimo plerumque striis distantibus cincto; suturâ marginatâ : apertura ovata, testæ quadrantem æquans. Long.  $\frac{7}{8}$ , lat.  $\frac{3}{10}$  poll. *Hab.* Falls of Vainafa, Upolu.

It has the form and general color of small, smooth specimens of *M. Virginica*, but the whorls are more flattened, and the front of the aperture is more rounded.

**MELANIA SCITULA.** Testa gracilis, elongato-conica, decollata, epidermide piceo induta : spira anfr. superstitibus ad 5 valdè convexis, supernis longitudinaliter plicatis, infernis spiraliter liratis, præcipuè juxta suturam et ad basim : apertura obovata, quadrantem testæ haud æquans, anticè aliquanto producta; fauce livido. Long.  $\frac{7}{8}$ , lat.  $\frac{1}{4}$  poll. *Hab.* Upolu.

It has the form and size of *M. abjecta*, Hald., from Alabama, also of *M. truncatula*, Lam. It is more robust, paler, and the folds are more prominent and on more whorls than in *M. plicata*, Lea.

**MELANIA SILICULA.** Testa parva, gracilis, sub-cylindrica, truncata, epidermide fusco-castaneo induta : spira anfr. ad 4 superstitibus, rotundatis, spiraliter liratis, supernis longitudinaliter plicatis; ultimo fusco-zonato; suturâ benè impressâ; apertura rotundato-ovata, anticè vix producta; fauce subviolaceo. Long.  $\frac{1}{2}$ , lat.  $\frac{1}{5}$  poll. *Hab.* Nisqually, Oregon.

Very much like the preceding, but considerably smaller, more cylindrical, the whorls more plaited, and a band on the basal one. It resembles *M. proxima*, Say, which is less cylindrical and without folds.

**MELANIA BULBOSA.** Testa parva, conico-oblonga, nitida, decollata, fusco-viridis : spira anfr. superstitibus 2-3 rotundis; suturâ profundâ : apertura ovato-rotundata, vix effusa. Long.  $\frac{1}{2}$ , lat.  $\frac{2}{20}$  poll. *Hab.* Columbia River.

The whorls are very cylindrical, so as to appear like a succession of bulbs. It is much like *M. perfusca*, Anthony; but in that the whorls slope gently to the suture. A broken specimen shows that it often attains a considerable size.

**MELANIA FURFUROSA.** Testa turrata, ovato-pyramidata, tenuis, scabriuscula, dilutè fulva, et propè suturam fusco maculata, striis arcuatis incrementalibus et striis volventibus tenuissimis decussata: spira integra, anfr. 7 rotundatis, confertis, supernè sub-tabulatis; ultimo magno, ventricoso; supernis obliquè plicatis: apertura lunata, ad columellam effusa. Long.  $\frac{3}{4}$ , lat.  $\frac{3}{8}$  poll. *Hab.* Manila.

Allied to *M. scabra*, which is more elongated, and its whorls much less cylindrical, its striæ coarse and distant, and crowned with spino-tubercles.

**MELANOPSIS ZELANDICA.** Testa solida, ovato-conica, nitida, olivacea, fusco-trifasciata: spira conica, brevis, acuta; anfr. 3, supernis planulatis et ad suturam confluentibus; ultimo magno, posticè planulato, anticè ventricoso: apertura elliptica, carulescens, rufo-fasciata, posticè in canalem obducta; labro acuto: columella valdè arcuata et excavata, posticè callo tuberculoso copioso instructa. Long.  $\frac{9}{10}$ , lat.  $\frac{2}{10}$  poll. *Hab.* New Zealand.

Compared with *M. prærosa*, Lin., it is more plump, has but 3 instead of 6 or 7 whorls, the aperture proportionally longer: the columella remarkably arched; and the surface and aperture are banded with dark chestnut.

**NERITINA PORCATA.** Testa obliqua, sub-hemispherica, solidiuscula, fusco-rubricans, maculis parvis nigris interdum tessellata, longitudinaliter striata et rugis conspicuis ordinatis sub-imbricatis porcata: spira vix tumida, anfractu ultimo penitus involuta; apertura parva, lunata; labro callo aurantiaco intus munito; labio plano, amplo, sanguineo; columellâ arcuatâ, denticulatâ. Diam.  $\frac{7}{10}$ , alt.  $\frac{1}{2}$  poll. *Hab.*

Like *N. Bruguieri* and *canalis*, it has the spire wholly involved in the last whorl. The former has a somewhat elevated spire, a larger aperture, and a smooth and silky instead of a ridged surface. The latter is distinct by the canal which winds along the suture.

**NERITINA CHOLERICA.** Testa obliquè semiglobulosa, solidula.

leviter striata, castaneo-fusca, subtus interdum lineolis flexuosis nigris picta; spira vix exserta, ultimo anfractu recurrente ferè involuta: apertura obliquè semicircularis, magna, posticè canaliculata; labro flavo; labio planulato extrinsecus sanguineo tincto; columellâ albâ, valdè sinuatâ, denticulatâ. Operculum tenue, lividum, sulco divisum, granulatum, ad apicem flavidum. Diam.  $\frac{3}{4}$  poll. *Hab.* Feejee Islands.

Allied to the dark varieties of *M. dubia*, but distinct by its involved and girded spire, like *N. Brugueri*, and also by its very sinuous and strongly-toothed pillar lip. It has a channel towards the spire much like *N. canalis*, whose color and marking of the ventral face it also resembles.

**NERITINA CHRYSOCOLLA.** Testa solida, obliquè conico-globosa, coracina, lineis exilibus obliquis flavidis flexuosis picta: spira elevata, erosa; anfr. 2-3 ventricosis, infra suturam aliquid constrictis; apertura obliquè semi-elliptica; labro cœruleo, viridi limbat; labio convexo, luteo-virente; columellâ sinuatâ, denticulatâ: operculum osseum, salmonaceum, costâ bisectum. Long.  $\frac{3}{4}$ , lat.  $\frac{2}{5}$ , poll. *Hab.* Upolu.

Of the same group as *N. communis*, *lugubris* and *helvola*, but distinct by its green, blue-edged outer lip and yellowish green pillar lip, as well as by its very delicate zigzag lines, scarcely seen except on the ventral face.

**NERITINA HELVOLA.** Testa solida, conico-globosa, polita, coloribus fuscis et cervinis plerumque fulgorantibus diversimodè picta: spira prominula, erosa, anfr. 2 superstitibus: apertura obliquè semicircularis, helvola; columellâ convexusculâ, callo copioso indutâ, acutè denticulatâ. Long.  $\frac{6}{8}$ , lat.  $\frac{5}{8}$  poll. *Hab.* Feejee Islands.

Closely allied to *N. communis*, but is rather more globular, and generally smaller, and the aperture has a more nearly circular outline. It has less brilliant and defined coloring, and is always to be distinguished by its eroded tip, and the bright carnelian color of its inferior face.

**NERITINA SIDEREA.** Testa parva, ovata-globosa, polita, nitida, nigra, punctis sparsis albis notata: spira prominula, erosa; anfr. 2-3; suturâ marginatâ: apertura semicircularis, intus cœrulescens; labio plano, angusto, luteo; columella acuta, vix denticulata. Operculum fuscum. Diam.  $\frac{1}{4}$  poll. *Hab.* Feejees.

About the size of *N. Bætica*, but more globose and solid ; the inner lip less extended, and yellow instead of bluish, and it also has the white specks by which alone it may be recognized. In *N. Bætica* the opercle is flesh-colored.

**NERITINA AMENA.** Testa parva, ovato-triangularis, posticè constricta, striis incrementalibus ordinatis benè insculpta, coloribus nigris, rubris, flavidis plerumque fasciatim dispositis, et maculis quadratis albis nigro-umbratis tessellatim dispositis, picta : spira planulata, erosa, anfr. 2-3 ; apertura rotundato-elliptica, flavo-viridis ; labro angusto, plano ; columellâ valdè arcuatâ, 10 denticulatâ. Operculum viridulum, inornatum. Axis  $\frac{3}{16}$ , lat.  $\frac{2}{8}$  poll.

This might be regarded as the young of *N. polita*. It is striated like it, but it differs in the color of its aperture, and in its opercle ; and the shadowed white spots are constant and peculiar.

**NERITA MUSIVA.** Testa modica, subsolida, transversa, ovoidea, ventricosa, fusco-cinerea, longitudinaliter crassè striata, sulcis volventibus ordinatis arata, liris interpositis planulatis, sub-granulosis, lineolis crebris albidis sectis : apertura sub-circularis, caliciformis, peristomate sub-continuo : labro edentulo, albo, sulcis obliquis fuscis tenuiter arato ; labio concavo, fusco, granulis paucis notato, denticulis tribus instructo. Axis  $\frac{1}{2}$ , lat.  $\frac{5}{8}$  poll.

This unusually-shaped Nerite looks like a Stomatella, with the whorls rounded in every direction, when viewed at the back. Its general form is somewhat like *N. signata*. It is remarkable for its nearly circular, cup-shaped aperture, its shining black, finely granulated concave pillar, and its gray, minutely mosaic surface produced by the white lines crossing its ridges.

**NATICA LEWISII.** Testa prægrandis, solidiuscula, conico-globosa, albida, epidermide sordidè stramineo induta, lineis minimis, confertissimis, flexuosis cincta ; spira anfr. 6 ventricosis posticè valdè constrictis : apertura obovata, ampla ; callo copioso albo castaneo-tincto supra umbilicum modicum simplicem profundum circumambiente, ad anfractum ultimum munita ; fauce incarnatâ. Operculum corneum. Axis  $4\frac{1}{2}$ -5, lat. 4 poll. *Hab.* Puget Sound.

This certainly exceeds in size all other species yet discovered. It is allied to *N. heros*, some specimens of which occasionally approach it in size. It is however less globular, and distinguish-



ed by the remarkable constriction near the suture. Specimens were brought from the mouth of the Columbia, by Lewis and Clarke, and have been designated by the above name.

*NATICA CAURINA.* Testa parva, solida, levigata, globoso-ellipsoidea, albida, epidermide tenui stramineo induta, vix perforata: spira obtusa, erosa, anfr.  $4\frac{1}{2}$ , ultimo sub-tabulato, anticè sub-contracto; apertura parva, semilunaris; columellâ rectâ, posticè callo copioso albo indutâ. Axis  $\frac{1}{2}$ , diam.  $\frac{2}{5}$  poll. *Hab.* Straits of De Fuca.

Nearly the same as *N. impervia*, Phil. from Cape Horn, which has a very depressed spire, and its umbilic closed by a semicircular callus. Its form and color is like *N. immaculata*, Tott., though it is much larger. It is more solid and less globular than *N. Grænländica*.

*NATICA SOLUTA.* Testa parva, globosa, sordidè alba, striis tenuissimis cincta: spira anfr. 5 ventricosis, supernè sub-tabulatis; suturâ profundissimâ: apertura semilunaris, angulo postico callo firmato; labio acuto, tenui, ad basim incrassato, subeffluso: columella recta, callosa, post umbilicun parvum profundum dilatata. Diam.  $\frac{1}{2}$  poll.

A small, nearly globular shell, allied to *N. borealis*, Gray, and *N. globosa*, King, but distinguished by its deep-channeled suture.

*NATICA ALGIDA.* Testa parva, tenuis, globosa, glabra, albido-livescens: spira anfr. 4 ventricosis juxta suturam linearem tabulatis, ultimo magno ampullaceo: apertura semilunaris; columellâ arcuatâ: basis umbilico modico spirali funiculato, ad aditum angulato, perforata. Long.  $\frac{5}{8}$ ; lat.  $\frac{3}{5}$  poll. *Hab.* Rio Negro.

Differs from *N. soluta* principally in its sutural region, and in its umbilical region, in which latter respect it differs from several allied species such as *N. globosa*, *N. borealis*, &c.

*NATICA DILECTA.* Testa parva, globulosa, solida, sub epidermide sordidâ eburnea, lineolis rubiginosis araneosis scutulata et propè suturam lituris castaneis maculata: spira rotundata, anfr. 5 ventricosis: apertura semilunaris; labro crasso; columellâ valdè calliferâ, callo anticè et ad funiculum castaneo, et canali transverso ferè diviso; umbilico amplo, funiculo ferè impleto. Long.  $\frac{5}{8}$ ; lat.  $\frac{5}{8}$  poll. *Hab.* — ?

Has a general resemblance in size and form to *N. maroccana*,

and must also be allied to *N. lupinus*, Desh. The whorls are closely appressed at the suture, and the network coloring is much like that on the bands of *Conus ammiralis*.

**STOMATELLA DECOLORATA.** Testa auriformis, depressa, subperforata, albida maculis lacteis et labeculis sanguineis marmorata, costulis numerosis confertis cincta, striis minutis ad paginam superiorem interpositis : spira prominula, anfr. 4 planulatis, suturâ profundâ discretis : apertura obliqua, sub-circularis ; columellâ acutâ, supernè reflexiusculâ, areolâ latâ inornatâ adjacente. Long.  $\frac{7}{8}$  ; lat.  $\frac{5}{8}$  ; alt.  $\frac{3}{8}$  poll. *Hab.* Mangsi Island.

Allied to *S. maculata*, Quoy, but the spire is less elevated, the aperture is more rounded, and above all, it is characterized by the plain white lunate area adjacent to the columella.

**STOMATELLA TUMIDA.** Testa subglobosa, ampullacea, tenuis, nitida, cinereo-olivacea, propè suturam albido et rufo seriatim maculata et lineolis sagittatis vittata, subtus flavescens, sulcis remotis cincta, sulcis basalibus fusco-articulatis : spira anfr. 4 tumidis : apertura circularis intus margaritacea ; labro acuto, albo ; columellâ revolutâ, callo copioso, erecto, albo-striato marginatâ. Long.  $1\frac{1}{8}$  ; lat.  $\frac{3}{4}$  ; alt.  $\frac{7}{8}$  poll. *Hab.* China Seas, Moluccas.

Distinguished by its globular form, shining surface, peculiar coffee-colored ground with delicately painted feathery ridges and the large white erect columellar callus. It accords with the figure in Chemnitz, named *Turbo papyracea*, but that shell is described as perfectly smooth.

**AMPULLARIA COLUMELLARIS.** Testa ponderosa, imperforata, rhomboidali-ovalis, nitida, sed sub lente argutè reticulata, flavo-viridis, fasciis rubidis cincta : spira elevata, anfr. 7 ventricosis : apertura semilunaris  $\frac{2}{3}$  longitud. testæ adæquans ; columellâ axillari, prælongâ, cylindricâ, contortâ ; labro flavido, evaso ; fauce castaneo. Long.  $2\frac{1}{2}$  ; lat. 2 poll. *Hab.* Province of Maynas, Peru.

Remarkable for its solidity, its elongated form, its want of umbilicus, and the presence of a columella like that of the bulboid helices.

**AMNICOLA BADIA.** Testa minuta, elongata, ovato-turrita, badia : spira acuta, apice erosâ, anfr. 5 convexiusculis, ultimo vix angu-

lato; suturâ impressâ: apertura ovata, peristomate continuo, obtuso, fusco. Long.  $\frac{1}{5}$ ; lat.  $\frac{1}{12}$  poll. *Hab.* Banks' Peninsula, N. Zealand.

A small elongated species like *A. preissii* of New Holland. Its color and its dark obtuse peristome give rather marked characters to a shell so small and simple.

AMNICOLA EGENA. Testa minuta, tenuis, sub-perforata, elongato-turrita, epidermide virescente induta: spira acuta, anfr. 5 convexis; suturâ profundâ: apertura ovata; peristomate continuo, labro acuto, patente. Long.  $\frac{1}{5}$ ; lat.  $\frac{1}{10}$  poll. *Hab.* Banks' Peninsula, N. Zealand.

More slender and less solid than *A. badia*, and of an entirely different color. It is very much like *Paludina acuta* of Europe.

LACUNA CARINATA. Testa parva, tenuis, ovato-globosa, epidermide corneâ tenui undulatum striatâ induta: spira anfr. 5 ventricosis, ultimo carinâ filôsâ cincto: apertura semicircularis dimidiam testæ adæquans; columellâ rotundatâ. Long.  $\frac{3}{10}$ ; lat.  $\frac{1}{5}$  poll. *Hab.* Puget Sound.

In color and marking much like *L. vincta* of our shores. Our shell sometimes has the last whorl perceptibly angular, but it never has the filiform carina.

LITIOPA DECUSSATA. Testa parvula, perfragilis, acuto-conica, badia: spira anfr. 8 convexis, transversim striatis, apicalibus plicatis: apertura ovata anticè subtruncata; labro simplici; columellâ arcuatâ, antice unidentatâ. Long.  $\frac{3}{40}$ ; lat.  $\frac{1}{10}$  poll. Found on floating wood, lat. 37° 40' N., long. 54° 30' W.

Agrees well with *L. striata*, Pfeiff., except that it is less than half the size.

LITTORINA PATULA. Testa magna, solida, rudis, rotundato-ovata, cinereo-olivacea albido maculata: spira anfr. 5, ultimo magno, ventricosus; suturâ vix impressâ: apertura ampla, rotunda; columellâ latâ, excavatâ, albâ; facie ventrali testæ quasi attritâ, et maculâ fuscâ notatâ; fauce castaneâ, anticè albotittatâ. Long.  $\frac{3}{4}$ , lat.  $\frac{1}{2}$  poll. *Hab.* San Francisco.

Remarkable for the amplitude of the aperture, the broad excavated columella, apparently ground away by the protrusion of the operculum.

LITTORINA LEPIDA. Testa parva, solida, elongata, biconica,

nitida, livida vel sanguinea albido tessellata vel zonata præsertim propè suturam et ad peripheriam, spiraliter crebrè et tenuiter puncto-striata : spira acuto-conica, anfr. 5, ultimo angulato : apertura ovata ; labro acuto, pallido ; fauce rubrà, albo-zonatà ; columellâ planulatâ, sanguineâ. Long.  $\frac{3}{8}$ , lat.  $\frac{2}{5}$  poll. *Hab.* Puget Sound.

A small, biconical species like *L. lineata*, characterized by its finely puncto-striate sculpture, its range of articulate spots, and by the blood-red color of the columella.

**LITTORINA SCUTULATA.** Testa parva, ovato-conica, plerumque erosa, castanea vel livida albido inordinatim maculata, striis obsoletis cincta : spira anfr. 5, ultimo ventricosus : apertura latè ovata ; labro acuto, pallido ; columellâ planatâ, antrorsum expansâ ; fauce livido. Long.  $\frac{3}{8}$ , lat.  $\frac{2}{5}$  poll. *Hab.* Puget Sound.

Allied to *L. tenebrosa*, but has a more elongate and acute spire ; also to *L. lepida*, but is more inelegant, and without the coloring of the base and aperture of that shell.

**LITTORINA CALIGINOSA.** Testa parva, ovata, tenuis, lævis vel lineis incrementalibus striata, epidermide fusco-virente luteo maculato induta : spira, apice erosâ, anfr. 4-5, ventricosis ; suturâ profundâ : apertura vix  $\frac{1}{2}$  longitud. testæ adequans, rotundato-ovata ; labro continuo, acuto, pallido, vix everso ; fauce livido. Long.  $\frac{1}{5}$ , lat.  $\frac{1}{8}$  poll. *Hab.* Terra del Fuego.

Has the general characters of small specimens of *L. tenebrosa*, and its structure and color give it somewhat the aspect of a fresh water shell.

**LITTORINA ACUMINATA.** Testa parva, solida, nitida, elongata, conico-turrita, livida obscurè flammulata interdum maculis albidis articulatis cincta : spira acuta, anfr. 6, planulatis, ultimo subangulato ; suturâ profundâ : apertura ovata ; columellâ nitidâ, moritinctâ. Long.  $\frac{3}{10}$ , lat.  $\frac{1}{5}$  poll. *Hab.* Mangsi Island.

A small, much elongated species in the style of *L. lineata*, known by its regular grooving, and its mulberry-tinted columella.

**LITTORINA PLENA.** Testa parva, solida, ovata, cinereo-olivacea, interdum albido reticulata, striis spiralibus insculpta : spira parva, acuta, anfr. 5, ultimo globoso, subangulato ; suturâ profundâ : apertura parva, dilatata et angulata ; columellâ planulatâ, rufâ, albido marginatâ ; fauce castaneâ, albo-zonato. Long.  $\frac{1}{4}$ , lat.  $\frac{1}{5}$  poll. *Hab.* San Francisco.



The globoseness of the last whorl is remarkable. It is less elongated than *L. acuminata*, and smaller, more polished, and with a smaller aperture than *L. scutulata*.

**STILIFER ACICULA.** Testa minuta, imperforata, elongato-subulata, acutissima, ad apicem integerrima et lentè distorta, nitidissima, livido-lactea interdum flavescente: spira anfr. ad 12 planulatis; suturâ lucidâ: apertura angusta, ovalis; labro simplici, antrorsum arcuato, anticè evoluto; columellâ vix arcuatâ. Long.  $\frac{3}{8}$ , lat.  $\frac{1}{10}$ , *Hab.* Fejee Islands, in Holothuria.

A much more delicate species than any one of *Stilifer* or *Eulima* described. The little *Phasianella stilifera*, Turt. (*Stilifer turtoni*, Brod.) is somewhat like it. *S. subulatus*, from the West Indies, is much less slender.

**SOLARIUM EGENUM.** Testa parva, ovato-conica, exalbida, submargaritacea: spira anfr. 6 convexis, liris acutis 4 cinctis, posterioribus granulatis: basis convexiuscula, perforata; umbilico sculariformi, ad ambitum acuto, crenulato: apertura circularis; labiis ferè continuis. Diam.  $\frac{3}{10}$ , alt.  $\frac{1}{4}$  poll.

The characters of this shell do not bring it strictly within the typical form of *Solarium*, but its facies is rather that of *Solarium* than of *Trochus*. It is to be grouped with *S. dealbatum*, Hinds, which it closely resembles. It is also similar in form, color, and size to *Margarita obscura*, Couthouy. Perhaps it would come under the genus *TORINIA*, Gray.

**TURBO CONFRAGOSUS.** Testa solida, albida, pyramidata, rudis, rugosa; rugis parvis, obtusis, ad peripheriam et ad angulum anfractuum interdum in spinis compressis prominulis productis: spira anfr. ad 6, angulatis supernè declivibus, ultimo ad peripheriam acuto; suturâ callosâ: basis planulata, liris squamosis concentricis inequalibus ad 8 cincta: apertura circularis; labro acuto, perobliquo; columellâ curtâ anticè dentatâ; fauce margaritaceâ. Lat.  $1\frac{1}{8}$ , alt.  $\frac{7}{8}$  poll. *Hab.* Dean's Island, Paumotu group.

This species has the low conical form, and bony aspect of the stellate species found in the West Indies. I know of no other similar one from the Pacific. Its wrinkled surface, polygonal whorls, and the squamous basal ridges mark it.

**TURBO SIRIUS.** Testa parva, imperforata, pyramidata, dilutè beryllina, leviter corrugata; spira anfr. 4 conicis, infra obliquè plicatis, ad peripheriam acutis et spinis compressis ad 18 armatis: basis planulata, stellaris, liris concentricis muricatis ad 5 insculptis; regione columellari arcuatâ, lævigatâ; labro perobliquo. Diam.  $\frac{1}{2}$ , axis  $\frac{3}{10}$  poll. *Hab.* New Holland.

The multitude and regularity of the triangular projections of the periphery, when viewed from below, give the base a beautiful star-like form, much like *T. stellaris*.

**TURBO LACINIATUS.** Testa rudis, depresso-conica, cinerea roseo-tincta: spira anfr. 4, irregulariter plicatis, plicis ad peripheriam acutissimis, dilatatis et in spinis elongatis compressis excurrentibus: basis convexiuscula, liris muricatis concentricis 10 – 12 insculpta: apertura circularis; columellâ lævi, arcuatâ, roseâ; labio perobliquo: faux margaritacea. Lat.  $\frac{3}{4}$ , alt.  $\frac{2}{5}$  poll. *Hab.* Manilla.

Closely allied to *T. rhodostomus*, Lk., but wants the double series of spines at the periphery.

**TROCHUS PRUNINUS.** Testa solidula, elevata, ovato-conica, lævis, nitida, prunina, lineis capillaceis numerosis cincta: spira anfr. 7 convexiusculis, ultimo subangulato; suturâ profundâ: apertura subcircularis; columellâ rotundatâ, albâ, anticè roseo-tinctâ, subsinuosâ: interior margaritacea, vividè iridescens. Alt.  $\frac{7}{8}$ , lat.  $\frac{7}{10}$  poll. *Hab.* Auckland Island.

This peculiarly colored species has the form, thickness, and appearance of the delicately lineated specimens of *Littorina angulifera*.

**TROCHUS TEXTURATUS.** Testa conica, imperforata, solida, cinerea viridi vel roseo-tincta, liris volventibus roseo-maculatis et laminis incrementi tenuibus clathrata: spira anfr. 7, vix convexis, ultimo sub-angulato: apertura rotundata, anticè evoluta; columellâ rotundatâ, labro declivi, acuto: interior margaritacea, iridescens. Alt. 1, lat.  $\frac{7}{10}$  poll. *Hab.* New Zealand.

This may be well compared with the coarse, solid, sulcated variety of *Littorina angulifera*.

**TROCHUS LIGATUS.** Testa solida, ovato-conica, imperforata, costulis rotundatis flavescentibus ubique cincta, intervallis incar-

natis concinnè clathratis, ad apicem violacea : spira anfr. 6 convexis : apertura circularis ; columellâ rectâ rotundatâ ; labro crenulato : regio umbilicalis vix indentata. Alt.  $\frac{3}{4}$ , lat.  $\frac{2}{3}$  poll. *Hab.* Puget Sound.

This shell resembles, in most respects, *T. doliarius* ; small specimens are like *Margarita cinerea*, Couth.

*TROCHUS PUPILLUS.* Testa parva, elevato-conica, margaritacea extrinsecus incana, filis virido-fuscis ubique cincta, ad intervallos minutissimè clathrata : spira anfr. 6 convexis : basis planiuscula, fissurâ umbilicali perforata : apertura circularis ; columellâ arcuatâ : faux fulgida, minutissimè punctata. Lat.  $\frac{1}{4}$ , alt.  $\frac{3}{10}$  poll. *Hab.* New Zealand.

Somewhat similar to *T. ligatus*, but much smaller, more delicate, more nacreous within, and partially umbilicated. It is still more like *Margarita cinerea*, but is more solid, and more delicately marked.

*TROCHUS JUCUNDUS.* Testa parva, solida, conica, flammulis radiantibus invicem coccineis incarnatis et albis picta : spira anfr. 6 sub-angulatis, filis granulosis alternis minoribus cinctis : basis convexuscula, imperforata, liris concentricis linearibus articulatis pictis insculpta ; regione umbilicali indentatâ : apertura rhomboidea ; columellâ arcuatâ, lævi ; labro simplici. Long.  $\frac{2}{3}$ , alt.  $\frac{3}{8}$  poll. *Hab.* New Zealand.

A very beautiful shell, both in color and sculpture, quite distinct from any described species.

*TROCHUS GRADATUS.* Testa parva, solida, perforata, ovato-conica, turrata, cinerea ferrugineo-flammulata : spira anfr. 5, declivibus, ultimo carinis duabus biangulato quorum suprema secundum spiram volvat ; interspatio trilincato et concinnè clathrato : basis convexuscula, liris granulatis concentricis ad 8 insculpta ; umbilico amplo, infundibuliformi : apertura circularis ; columellâ tenui, rectâ, anticè dentiferâ. Alt.  $\frac{3}{8}$ , diam.  $\frac{2}{3}$  poll. *Hab.* Pacific Islands.

In most respects it is like *T. eximius*, Reeve, which, however, is imperforate. It is also somewhat like *T. sulcatus*, Wood's Sup.

**TROCHUS ACINOSUS.** Testa solida, convexo-conica, æruginosa, seriebus 4 papillarum insignis et lineolis capillaceis volventibus ubique insculpta; serie anticâ majori: spira anfr. 6 planiusculis, ultimo acutangulato: basis excavata, cinerea, filis concentricis fuscis cincta; interspatiis indentatis; regione umbilicali infundibuliformi et costis duabus tri-partitâ: apertura rhombea; columellâ lævi, contortâ; labro simplici, perobliquo. Diam.  $\frac{4}{8}$ , alt.  $\frac{5}{8}$  poll. *Hab.* New Zealand.

The peculiarities of this species are, the series of tubercles on the delicately lineated ground, the excavated base with its thread-like unbeaded lines, and the two white ribs in the umbilical pit. May be compared with *T. vernus*, Chem.

**TROCHUS ELISUS.** Testa parva, elevato-conica, imperforata, cinerea: spira anfr. 6 declivibus, suturâ fossali valdè profundâ discretis, costulis transversis granosis tribus (quorum intermediâ minore) cincta, interspatiis clathratis: basis convexa, costulis clathratis insculpta: apertura subcircularis; columellâ granulâtâ; labro intus sulcato. Diam.  $\frac{3}{8}$ , alt.  $\frac{1}{2}$  poll. Dredged at Singapore.

Distinct from any described species. Its markings are deeply sculptured, and its peculiar sutural region is a character which cannot fail to be noticed at first glance. It is quite probable that it may be colored differently when quite fresh.

**TROCHUS BICRENATUS.** Testa pyramidata, flavescens, flammulis rufis alternis saturatoribus ornata, lineis equalibus granulosis cincta: spira anfr. 7-8, penè concavis, ad peripheriam acutis et denticulis roseo-crenulatis ad 15 munitis: basis planulata; vortice umbilicali eburnea: apertura trapezoidea; columellâ contortâ. Diam.  $\frac{7}{8}$ , alt.  $\frac{3}{8}$  poll.

The species most resembling it are *T. fimbriatus*, Lam., and *T. Buschii*, Phil.; but from these and all others it is well distinguished by its doubly crenate margin, as viewed from below. The profile outline is a little concave.

**TROCHUS CIRCUMSUTUS.** Testa solida, elevata, accuratè conica, imperforata: spira anfr. 9 subangulatis, supernè declivibus, infra nodis obliquis et liris granosis cinctis: color cinerea, portionibus cavatis saturatè olivaceis suturas simulantibus: basis planulata, sulcis filiformibus concentricis ad 12 insculpta; regione umbilicali



eburneâ: apertura transversa, sub-rhombea; columellâ brevi, acutâ, contortâ. Lat.  $\frac{9}{10}$ , alt.  $\frac{9}{10}$  poll. *Hab.* Madagascar?

In form and sculpture this may be compared with the tip of *T. pica*. The peculiar coloration, representing courses of olive-colored stitches is characteristic.

**TROCHUS SPURCUS.** Testa parva, solida, globoso-conica, nitida, ubique striis volventibus exilibus insculpta, obliquè strigis angulatis stramineis et fuscis alternantibus variegata, propè suturam maculis quadratis quoque picta: spira anfr. 4-5 ventricosus, ultimo subangulato; suturâ impressâ: basis concavo-conica, imperforata vel aretè umbilicata: apertura perobliqua, circularis; columellâ arcuatâ; labro acuto, simplici; fauce submargaritaceâ. Diam.  $\frac{3}{8}$ , alt.  $\frac{3}{10}$  poll. *Hab.* Madeira.

Has most of the characters of *T. Fermoni*, but is very much smaller, wants the peculiar channelled shoulder of the whorls, and the widely open umbilicus.

**TROCHUS AMENUS.** Testa parvula, depressa, globoso-conica, levis, nitida, fusca, punctis luteis ubique irrorata, et maculis piceis cum flavidis alternantibus ad suturam et ad peripheriam ornata: spira anfr. 4-5 convexus, ad suturam constrictis: basis convexa, imperforata, concentricè striata: apertura sub-circularis; regione columellari complanatâ, albâ; columellâ anticè dentiferâ; labro acuto, striato; fauce lividâ, margaritaceâ. Diam.  $\frac{3}{10}$ , alt.  $\frac{2}{10}$  poll. *Hab.* Feejee Islands.

A pretty shell, allied to some of the Mediterranean species, like *T. Lessoni*. Its small size, minutely freckled surface, with the articulated bands of black and yellow, may mark it.

**TROCHUS (Monodonta) COLUBRINUS.** Testa depressa, conico-globosa, imperforata, olivacea maculis subquadratis hepaticis tessellata, sulcis inequalibus minimè profundis cincta: spira anfr. 5, planiusculus, ultimo ad peripheriam obtusè angulato: basis convexiuscula, regione centrali absque colorem: apertura semi-circularis, columellâ acutâ, anticè truncatâ et dentem mentiente; labro acuto, viridi; fauce submargaritacea. Diam.  $\frac{7}{8}$ , alt.  $\frac{6}{8}$  poll. *Hab.* Madeira.

This shell has the form and texture of *Tr. umbilicaris*. It seems not to be an uncommon shell, but I find no description of it.

**TROCHUS (Monodonta) INSTRACTUS.** Testa parva, elevata, ovato-conica, arctè perforata, albida et maculis dilutè rufis propè suturam picta: spira anfr. 5, convexiusculis, sub-imbricatis, suturâ profundâ canaliformi sejunctis, liris acutis ubique cinctis, interspatiis concinnè clathratis: basis convexa: apertura obliquè semicircularis; columellâ acutâ, obliquâ, in dentem terminante; labro incrassato, intus sulcato, juxta columellam rugoso et emarginato. Long.  $\frac{3}{8}$ , lat.  $\frac{3}{10}$  poll. *Hab.* Pacific Islands.

**TROCHUS (Monodonta) ATROPURPUREUS.** Testa parva, depressa, ovato-conica, atropurpurea, liris granulosus ubique cincta: spira anfr. 5-6, ultimo subangulato: basis convexiuscula, latè perforata; umbilico cavernoso, limine acuto, denticulato, propè columellam interrupto: apertura circularis; columellâ obliquâ, acutâ, anticè dentatâ, emarginatâ; labro albo et nigro articulado, intus sulcato; fauce margaritaceo. Alt.  $\frac{2}{10}$ , lat.  $\frac{3}{10}$  poll. *Habitat,* Tutuilla, Navigator Islands.

Allied to *T. pharaonis* and *T. canaliculata*, in its habitus and umbilicus, but more like *T. corallinus* in size and general characters. Its uniform color and granulation, toothed margin of the umbilic, with the conspicuous tooth above, are its characters.

**TROCHUS (Monodonta) ROTELLINUS.** Testa parva, solida, lenticularis, nitida, fissurâ latebrosâ perforata, dilutè incarnata, flammulis flexuosis saturationibus, et seriebus duobus transversis macularum fuscarum variegata: spira anfr. 5, convexiusculis: apertura parva, subcircularis; columellâ perobliquâ, arcuatâ posticè ab anfractu sejunctâ, anticè in dentem acutum terminante; labro propè dentem quasi emarginato. Diam.  $\frac{3}{8}$ , alt.  $\frac{1}{5}$  poll. *Hab.* Mangsi Island.

This curious little shell would at first be taken by its form, polish, and color, for a *Rotella*, while the notch of the aperture resembles that of *Buccinum neriteum*. But its umbilic and columella place it with *Monodonta*, or more properly in that subdivision of *Trochus* named *Clanculus* by Montfort.

**TROCHUS TANTILLUS.** Testa minuta, conico-discoidea, flavido-cinerea, lineis radiantibus flexuosis fuscis picta: spira depressa, anfr. 4-5 angulatis, ultimo ad peripheriam dilatato, acuto: basis convexiuscula, perforata, flavida, liris duabus concentricis pro-

clivibus munita: apertura obliquissima. Axis  $\frac{1}{12}$ , diam.  $\frac{1}{2}$  poll. *Hab.* Sandwich Islands.

I have met with no description of a species so small as this, and yet its characters are very prominent. Its form and concentric ridges give it the aspect of a conical operculum.

**PLANAXIS LINEOLATUS.** Testa minuta, solida, acuto-conica, ex albido fuscescens, lineis castaneis numerosis cincta: spira acuta, anfr. 6-8 planulatis, supernis granulatis, ultimo  $\frac{2}{3}$  testæ longitud. æquante, ad peripheriam sub-angulato: basis spiraliter striata: apertura rotundato-ovata, posticè haud callifera; labro pallido, vel fusco tessellato, intus denticulato; fauce fusco. Axis  $\frac{1}{4}$ , diam.  $\frac{1}{3}$  poll. *Hab.* Wilson's Island.

This little shell is not infrequent in cabinets, but I find no description of it.

**PYRAMIDELLA AMBIGUA.** Testa minuta, albida, imperforata, ovato-subulata, costis longitudinalibus exilibus ad 20 ornata, intervallis spiraliter striatis: spira acuta, anfr. ad 10 planulatis: apertura auriculata, anticè subeffusa; columellâ callosâ, gibbosâ, anticè sinuatâ; labro simplici, incrassato. Axis  $\frac{1}{4}$ ; diam.  $\frac{1}{10}$  poll. *Hab.* Clermont Tonnere Island.

The characters of this little shell, which I have for the present placed under *Pyramidella*, are somewhat abnormal. Its size and sculpture would suggest *Truncatella*; its aperture is somewhat like the effuse form of *Eulima*; the form of aperture is also like *Pyramidella*, though it has no proper plaits, but merely an intrusion of callus with an adjacent sinus in place of them, and in this, is like *Monotigma*.

**CERITHIUM (Potamis) SACRATUM.** Testa rudis, elongata, badia et fasciâ luteâ cincta: spira turrata, anfr. ad 10 convexis, vix angulatis, et liris obsoletis cinctis, supernis plicatis, ultimo globoso, abnormali, varice magno munito; suturâ profundâ, luteâ: apertura rotundata, antice effusa, haud emarginata; labro everso, polito, piceo: operculum multispirale. Long.  $1\frac{1}{2}$ ; lat.  $\frac{5}{8}$  poll. *Hab.* Sacramento River, California.

Allied to *C. varicosum*, Sowb. The surface, though not smooth, is destitute of longitudinal ribs except near the tip; it has also a pale sutural region and a less marked canal.

*CERITHIUM ADUNCUM.* Testa solida, distorta, acuminato-conica, leviuscula, filis tenuibus cincta, luteo-cinerea, fusco-tincta: spira acuminata, anfr. 9 planis, suturâ vix discretis, ultimo gibboso, valdè deflecto: apertura angusta, callosa, in canalem adscendentem producta; labro crasso, simplici; fauce livido. Long. 1; lat.  $\frac{2}{5}$  poll. *Hab.* Mindanao.

This smooth, solid, dusky species is plainly marked by its peculiarly distorted form, the last whorl being so flexed upon the others that its ventral outline is straight, while the dorsal outline is remarkably arched.

*CERITHIUM IRRORATUM.* Testa ovato-conica, transversim striolata, fusco-nigricans, punctis elongatis cinereis irrorata: spira conica, anfr. 7, planulatis, longitudinaliter undulatis, ultimo dimidiam testæ superante; suturâ obsoletâ: apertura rotundato-elliptica; labro declivi; canali brevissimo; fauce livido, albo-fasciato. Long.  $\frac{3}{4}$ ; lat.  $\frac{4}{5}$  poll. *Hab.* ?

Generally resembling *C. ocellatum*, Lam., which has a median tuberculated angle on each whorl and an excavated sutural region, while this has a regularly curved outline and folded surface. The pale spots are less numerous, and the proportions of the aperture are different.

*CERITHIUM SORDIDULUM.* Testa elongata, rubiginoso-albida, costellis numerosis et filis volventibus alternatim majoribus reticulata: spira turrita, acuminata, anfr. 11 planulatis, ultimo varicoso, granuloso; suturâ profundâ: apertura ampla, ovato-rotundata; labro crenulato, extus incrassato, rufo-tincto; rostro attenuato, valdè recurvo; fauce albâ. Long.  $\frac{7}{10}$  lat.  $\frac{1}{4}$  poll. *Hab.* ?

In its general structure, especially in the development of the last whorl, this may be compared with *C. columna*, Sowb., but it differs entirely in sculpture, its beak is very much shorter, and it is very much smaller.

*CERITHIUM INVAGINATUM.* Testa elongato-turrita, sordidè alba, ad apicem et interdum ad rostrum rufescens, filis tenuibus cincta; spira anfr. 10–12 angulato-convexis, supernè tabulatis, infernè constrictis, nodoso-plicatis et concinnè lamelloso-rugosis, ultimo carinato: apertura subquadrata, alba; rostro gracili, recurvato. Long.  $\frac{7}{8}$ , lat.  $\frac{1}{4}$  poll. *Hab.* Feejee Islands.

A very peculiar species. The tuberoso whorls narrowed an-



teriorly, so as to appear when viewed from above as if crowded into each other, and the very delicate wrinkling of their superior portion renders the diagnosis clear.

*CERITHIUM CALATUM*, Couthouy MS. Testa subulato-turrita, dilutè rufa : spira anfr. ad 13 vix convexis, longitudinaliter crebrè sulcatis, et lineis duabus impressis cinctis, ultimo anfr. ad basim inornato ; suturâ impressâ : apertura rotundata ; columellâ arcuatâ, rostro brevissimo. Long.  $\frac{3}{4}$  ; lat.  $\frac{1}{5}$  poll. *Hab.* Terra del Fuego.

This species belongs to the same group as *C. turritella*, which it resembles ; but in its delicate form it still more strongly resembles *C. sardoum*, Cantr.

*CERITHIUM FILOSUM*. Testa parva, elongato-turrita : spira anfr. ad 8 planulatis, sulcis et liris alternantibus æqualibus ad 4 cinctis, coloribus cinereis et pallidé rufis partitis ; suturâ impressâ : apertura parva, semi-elliptica, anticè emarginata ; columellâ vix arcuatâ ; labro acuto. Long.  $\frac{5}{8}$ , lat.  $\frac{1}{5}$  poll. *Hab.* Puget Sound.

Only a single specimen of this turritella-like *Cerithium* has been examined. It is of the same type as *C. calatum*, and is well characterized by its simple revolving lines and grooves, and its coloration.

*CERITHIUM PUSILLUM*. Testa minuta, fulva, turrita, varicosa, longitudinaliter undata, undis ad 10, propè basim evanescentibus : spira acuminata, anfr. 8 convexis, filis tenuibus granulosis 4 cinctis, anfractu ultimo multicincto : apertura lata, ovata, obliqua ; rostro brevissimo ; labro varicoso ; columellâ arcuatâ. Long.  $\frac{1}{2}$ , lat.  $\frac{1}{12}$  poll. *Hab.* Sandwich Islands.

A little shell about the size, and with many of the characters of *C. Emersonii*. It also resembles *C. ferrugineum*, Say, but is much smaller.

*CERITHIUM EGENUM*. Testa minuta, lanceolata, albida, ad basim maculis parvis fuscis notata : spira acuminata, anfr. ad 10 convexiusculis, filis ad 5 cinctis, quorum centrali et suturali majoribus, anfractu ultimo utrinque varicoso : apertura rotundato-ovalis ; rostro brevissimo ; columellâ posticè callosâ. Long.  $\frac{2}{3}$ , lat.  $\frac{1}{8}$  poll. *Hab.* Wilson's Island.

The characters of this little shell are somewhat negative, but on the whole it may be distinguished by its sharp revolving lines having a tendency to granulation, without longitudinal folds; the little blotches in the region of the rostrum seem to be constant. It is a little like *C. lacteum*, but much smaller.

**CERITHIUM IANTHINUM.** Testa parva, tenuis, ovato-lanceolata, violacescens sed labro suturâ et varicibus albis: spira acuminata, anfr. trivaricosis ad 10, filis tenuibus ad 8 cinctis, quorum mediani majori et granoso ad anfractus apicales: apertura ovato-rotundata; rostro brevissimo; columellâ vix callosâ. Long.  $\frac{3}{8}$ , lat.  $\frac{2}{5}$  poll. *Hab.* Clermont Tonnere.

If this be not the young of some other species, which I somewhat suspect, it is very well marked by its color alone. The contrasting of the white and violet, and its numerous ribs being beautifully displayed. It is larger than *C. egenum*.

**PLEUROTOMA SEMINIFERA.** Testa subulato-turrita, fuscescens, filis deorsum crescentibus cincta: spira anfr. ad 12, juxta suturam carinatis, deinde excavatis, ad medium nodulis obliquis rubris ornatis: apertura angusta,  $\frac{2}{3}$  long. testæ adequans; caudâ brevi; sinu æquè latâ ac profundâ; columellâ rectiusculâ; fauce livido.

Long.  $1\frac{2}{8}$ ; lat.  $\frac{3}{8}$  poll. *Hab.* ———.

Closely allied to *P. interrupta*, Lk., but differing from figures of it in color, and from the description in having a more decidedly excavated girdle in front of the suture, in the greater obliquity of the folds, and in their not reaching to the suture below.

**MANGELIA CITHARA.** Testa parva, rhomboideo-fusiformis, cinerea, costis acutis longitudinalibus 7 instructa, interstitiis concavis, subtiliter transversim striatis: spira turrita, anfr. 7 benè discretis, ultimo ovato-triangulari  $\frac{2}{3}$  long. testæ adequante: apertura angusta, labro lato, varicoso, posticè rectangulari, vix sinuato; columellâ concinnè rugosâ. Long.  $\frac{3}{8}$ ; lat.  $\frac{2}{5}$  poll. *Hab.* Feejee Islands.

Much like *M. Hornbeckii*, a West Indian species, but has a much narrower aperture, fewer ribs, and the last whorl shorter. *M. pessulata* has also many more ribs, and is much less acuminate anteriorly.

**FUSUS LIRATUS**, Couth. MS. Testa parva, solida, ovato-fusiformis, straminea, longitudinaliter plicis angularibus instructa et striis profundis cincta; spira brevis, conica; anfr. 7, ventricosus posticè angulatis, ultimo  $\frac{2}{3}$  long. testæ adequante, antrorsum in rostrum tenuem, contortum subito contracto: apertura angusta, ovata, in canalem obducta; columellâ politâ, contortâ, albâ. Long.  $\frac{3}{4}$ , lat.  $\frac{3}{8}$  poll. Dredged at Orange Harbor.

The prominent trigonal ribs, cut by the deep, somewhat distant revolving lines, with its slender rostrum, are characteristic of this species. It resembles *Buccinum cancellarioides*, Reeve.

**FUSUS CRISPUS**, Couth. MS. Testa parva, subrhomboidea, elongata, rudis, cinerea, plicis laminosis 8 variciformibus e striis laxis incrementalibus compositis instructa, et liris obtusis cincta: spira acuto-conica, anfr. 7-8, convexis, posticè plus minusve angulatis, ultimo ventricosus,  $\frac{2}{3}$  long. testæ adequante, antrorsum in rostrum acutum subito attenuato: apertura rotundato-ovata, labro semicirculari, crenulato; columellâ rectiusculâ. Long.  $\frac{7}{8}$ ; lat.  $\frac{9}{10}$  poll. Dredged at Orange Harbor.

This species, from its variciform plaits might be regarded as a *Murex*, were it not for its rostrum, and its animal. The form varies greatly, as well as the degree of angularity of the whorls; but the peculiar lax arrangement of the stages of growth, especially where they form the varices, allows of no mistake.

**FUSUS INCISUS**. Testa elongato-ovata, livido-cinerea, striis profundis volventibus saturationibus incisa: spira conica, anfr. 7 convexis, apicalibus undulatis, ultimo  $\frac{2}{3}$  long. testæ; rostro brevi, vix recurvo: apertura  $\frac{1}{2}$  long. testæ, angusta, subovalis; labro arcuato, acuto, crenulato; columellâ rectiusculâ, lævi, subcontortâ, purpurascente; faux livido-fusca, sulcata. Long.  $1\frac{3}{4}$ ; lat.  $\frac{7}{8}$  poll. *Hab.* ———.

This buccinoid species should perhaps be grouped with the genus *Polia* of Gray. It has no remarkable characters except its dingy livid brown color, and the deep cut revolving lines.

**FUSUS FIDICULA**. Testa parva, tenuis, albida, longitudinaliter lamelloso-costata, costis 24, striis volventibus ad 8 decussatis: spira conica, turrita; anfr. 7 tabulatis, ultimo in rostro brevi subito attenuato: apertura angusta, dimidiam long. testæ haud æquans, posticè angulata; labro acuto, crenulato; columellâ

posticè arcuatâ, albâ, politâ. Long.  $\frac{9}{20}$ ; lat.  $\frac{9}{40}$  poll. *Hab.* Puget Sound.

The counterpart of *F. turricula*, from some varieties of which it would not at first be distinguished; but it is smaller, more solid, the longitudinal ribs more lamellar and more decidedly cut by the revolving lines, which are also less numerous.

**FUSUS ORPHEUS.** Testa parva, elongata, cinerea: spira turrita, anfr. 6 supernè angulatis, lamellis acutis longitudinalibus muricatis, et filis transversis cinctis; anfr. ultimo posticè ventricosus, antrorsum in rostrum vix reflexum attenuato: apertura elliptica,  $\frac{1}{2}$  long. testæ, posticè angulata; labro acuto; columellâ anticè intrudente; fauce carnicolori. Long.  $\frac{1}{2}$ ; lat.  $\frac{1}{5}$  poll. *Hab.* Puget Sound.

More slender, the beak longer, the longitudinal bars less numerous and more lamellar than in *F. fidicula*; in form it is more like *F. bamffius*.

**FUSUS SUBLUTUS.** Testa parva, tenuis, elongata, pallida vel ad basim et ad suturam livida, longitudinaliter costata, costis ad 12 erectis, obtusis, ad suturam haud attigentibus, sed secundum rostrum productis: spira acuto-conica, anfr. 7–8 convexis, apicalibus levibus, cæteris minutissimè decussatis, ultimo sub-globoso  $\frac{1}{2}$  testæ long. adequante: apertura angusta, posticè angulata; labro posticè arcuato; fauce castaneo, albo fasciato. Long.  $\frac{2}{5}$ ; lat.  $\frac{1}{4}$  poll. *Hab.* ———.

The last whorl and beak are unusually short, with much the aspect of a *Mangelia*. The coloring of the aperture is very decided, while the surface looks dead and chalky.

**TRITON BRASILIANUM.** Testa rhomboidea, elongata, rufescens, epidermide tenui longitudinaliter hic illic fimbriato induta: spira conico-turrita, anfr. 6, tabulatis, supernis costis quadratis duabus ad apicem granulatis cinctis; anfr. ultimo triangulari costis 6 undato-nodosus antrorsum diminuentibus cincto, in rostrum vix recurvum producto: apertura  $\frac{1}{2}$  long. testæ ovato-lunata; labro valdè varicoso, costis supereuntibus, interspatiis fuscis, plicis geminatis albis munitis; columellâ castaneâ rugis albis obliquis ornatâ. Long. 2, lat.  $1\frac{1}{8}$  poll. *Hab.* Rio Janeiro.

This appears to be one of several species confounded under the Linnean *T. doliarium*. Deshayes has indicated it as a dis-



inct species, but has not described it. The coloring is like *T. doliarium*, but the form and cincture is more like *T. cutaceum*. The aperture and lip is like *T. pilcare*, and it may be regarded as intermediate between the two latter species.

**TRITON MUNDUM.** Testa parva, solida, oblongo-rhomboidea, straminea, epidermide tenui, sparsim hirsuto induta: spira conica, anfr. 4, convexiusculis, ultimo gibboso, tri-nodoso, in rostrum rectiusculum attenuato, costulis tribus et liris intermedianis cincto et filis continuis longitudinalibus decussato: apertura angusta, ovalis,  $\frac{1}{2}$  testæ adequans; labro crasso, tuberculis geminatis 7 crenato; columellâ arcuatâ, posticè dentiferâ; fauce albo. Long.  $\frac{7}{8}$ ; lat.  $\frac{2}{5}$  poll. *Hab.* Tutuilla, Samoa Islands.

This might be regarded as the young of *T. nodosum*; but besides bearing all the marks of maturity, it is more slender, the longitudinal lines are stronger, and the lip is white.

**PHOS VARICOSUS.** Testa elongata, lanceolata, fulvida, rubiginoso-cincta, costis lamellosis ad 16 clathrata, quorum ad tribus in singulis anfractibus, variciformibus, pallidioribus, interspatiis duplo latoribus, concavis et lineis incrementi striatis, omnibus filis volventibus retrorsum acclinatis decussatis: spira turrita, anfr. 9-10 superne turgidis: apertura angusta, lunata, posticè rotundata  $\frac{1}{3}$  long. testæ adequans; labro simplici, intus sulcato, rosaceo; columellâ 4 plicatâ; canali siphonali brevi. Long.  $1\frac{1}{8}$ , lat.  $\frac{2}{10}$  poll. *Hab.* Philippine Islands.

This curious shell is somewhat anomalous, having the varicose spire of a *Triton*, but the unequivocal aperture of *Phos*. It may be compared with *P. retecosus*, Hinds, having the more slender form and finer reticulation, but with the peculiar varicose lip, and nearly the same size and color. It is perhaps still more like *P. senticosus*, but it is much less asperous, and peculiarly inflated near the suture.

**MUREX (Trophon) FRUTICOSUS.** Testa parva, tenuis, subrhomboidea, straminea: spira anfr. 5-6 angulatis, supernè concavo-declivibus, serie mediani spinarum armatis, spinis ad 6 tubulosis, subramosis, recurvo-adscendentibus; anfr. ultimo series tres spinarum lamellis longitudinalibus conjunctarum gerente: apertura ovato-trigona,  $\frac{1}{2}$  testæ long. adequans; rostro brevi, dextrorsum deflecto. Long.  $\frac{3}{4}$ ; lat.  $\frac{1}{2}$  poll. *Hab.* New Holland.

It has the form, size, and armature of *M. noduliferus*, Sowb., which is described as being transversely striated, and with a very short canal.

**BUCCINUM (Bullia ?) VELATUM.** Testa solida, ovato-lanceolata, levis, polita, livido-violacea, albido-reticulata, versus labrum pallescens, et lineolis rubiginosis cincta : spira acuto-conica, anfr. 7-8 convexiusculis, serie suturali gemmularum coronatis, ultimo  $\frac{2}{3}$  long. testæ adequante et ad basim spiraliter striato : apertura ovalis, posticè canaliculata ; labro acuto, extrorsum incrassato, intus 10-sulcato ; sinu siphonali obliquo, profundo, castaneo-tincto. Long. 1 ; lat.  $\frac{2}{5}$  poll. *Hab.* Mindanao.

This may be compared with *Buccinum vittatum*, but is smaller, and proportionally shorter. Its aperture has the posterior callus, and small, closed siphonal notch of *Nassa*. The sutural vitta is very delicate ; and its peculiar coloration, especially its pale lace-like reticulation, is quite distinctive.

**BUCCINUM FUNEREUM.** Testa elongata, ovato-conica, lurido-cinerea, striis tenuibus cincta : spira turrita, anfr. 6-7 supernè excavatis, infernè plicis longitudinalibus undatis : apertura angusta, ovalis, ad dimidiam long. testæ ; labro simplici, posticè emarginato ; columellâ rectiusculâ ; fauce hepaticâ. Long. 1 ; lat.  $\frac{1}{2}$  poll. *Hab.* New Zealand.

Another of the peculiar group of liver-colored *Buccina* from Australia, which seem to have a loose, porous, ash-colored superficial layer, with a posterior notch to the aperture, (*Tritonium* ?) It is well marked by the excavated constriction near the suture, and the coronated appearance produced by the termination of the folds at the middle of the whorls.

**BUCCINUM FOSSATUM.** Testa tenuis, ovata, ventricosa, rufo-cinerea, annulis et sulcis subequalibus cincta : spira conica, anfr. 7 convexis, supernis clathratis, ultimo ventricoso, posticè declivi et obliquè fluctuato : anticè brevissimè rostrato ; rostro canali valdè effosso cincto : apertura lata, ovato-quadrata ; labro valdè arcuato ; columellâ obliquè lirâtâ et callo tenui indutâ. Long.  $1\frac{1}{4}$  ; lat. 1 poll.

*Hab.* Puget Sound and Mouth of Columbia River.

Its thin structure, ventricose form, the very oblique folds on the upper part of the large whorl, and the remarkable channel around the base of the siphonal notch, are its chief characters. It be-

longs to the same group as *N. trivittata*, Say. On some specimens a fine thread intervenes between the broader rings.

**BUCCINUM (Pollia) FARINOSUM.** Testa parva, solida, ovato-rhomboidea, lutescens rufo cineta, spiraliter granulato-filosa, longitudinaliter undato-plicata, plicis ad 8 acutis demum numerosis et propè labrum acutum in varicem terminantibus: spira brevis, conica, anfr. 6 convexis, ultimo antrorsum acuminato, sub-reflexo: apertura angusta, lunata, labro intus 6 plicato; columellâ rugoso-granulosâ, callosâ; fauce albo. Long.  $\frac{3}{8}$ ; lat.  $\frac{3}{10}$  poll.

*Hab.* Sandwich Islands, Kauai.

This little muriciform species is quite pretty; and appears to belong to the group of which *B. undosum* is the type.

**NASSA MUSIVA.** Testa solida, ovato-conica, polita, albido et olivaceo marmorata, coloribus in maculis quadratis tessellatim dispositis: spira conica, anfr. 6-7 convexis, benè discretis, ultimo  $\frac{3}{4}$  long. testæ, propè labrum pallidiori, longitudinaliter plicato et lineolis olivaceis cincto: apertura  $\frac{1}{2}$  long. testæ, ovalis, posticè canaliculata; columellâ valdè arcuatâ, obliquè sulcatâ; labro intus sulcato, sulcis fuscatis. Long.  $\frac{4}{5}$ ; lat.  $\frac{2}{5}$  poll. *Hab.* Cape de Verds.

This is one of the most beautiful species of the genus, and is well characterized by its polished surface, and its clouding of white and olive, made up of little quadrate spots, arranged in encircling series resembling mosaic. It may be *B. pictum*, Dunker.

**NASSA LURIDA.** Testa solida, conico-ovata, lævis, livido-cinerea albido-variegata: spira conica, acuta, turrita, anfr. 7-8 convexusculis, supernè tabulatis et ad angulum crenato-nodosis, apicalibus plicatis, ultimo anticè sulcis 3-4 cincto et ponè labrum plicato; suturâ canaliculatâ: apertura  $\frac{1}{2}$  long. testæ, ovalis, posticè emarginata; columellâ posticè lamelliferâ, anticè dentiferâ; labro acuto, albo, extus incrassato, intus sulcato; canali siphonali profundo. Long.  $\frac{7}{10}$ ; lat.  $\frac{2}{5}$  poll. *Hab.* Samoa Islands, 'Tu-tuilla.

Resembles *N. musiva* in surface and color, but the spire is more elevated, and there is merely a mottling of colors without any definite arrangement.

*NASSA CURTA*. T. abbreviata, ovato-conica, lutescens interdum rufo subfasciata, subspinosa, longitudinaliter plicata; plicis ad 13 tenuibus, acutis, liris conspicuis decussatis: spira conica, anfr. 6 convexiusculis; ultimo globoso  $\frac{5}{8}$  long. testæ adequante: apertura rotundato-ovalis; labro crenulato, intus sulcato, extrorsum incrassato; columellâ callo copioso granuloso indutâ; sinu siphonali angusto, profundo. Long.  $\frac{9}{20}$ ; lat.  $\frac{8}{20}$  poll. *Hab.* Samoa Islands.

Remarkable for its broad, abbreviated form. In some of its characters it is allied to *N. muricata*, but its surface has much more numerous and more delicate asperities. Some specimens are distorted and still more finely sculptured, losing in a great degree the longitudinal folds. *Bucc. scabrum*, Dunker, must be like it, but is described as larger, more solid, and slender.

*NASSA CINCTELLA*. T. solida, ovato-conica, nitida, albida lineâ unicâ rufâ cincta, plicis longitudinalibus acutis ad 10 et striis volventibus ad 8 decussata: spira conica, anfr. 7 planiusculis angustè tabulatis, ultimo subgloboso  $\frac{2}{3}$  long. testæ adequante: apertura angusta, ovalis,  $\frac{1}{2}$  long. testæ haud equans; labro crenulato, extus incrassato, intus 7-sulcato; columellæ callo haud appresso, concinnè rugoso; incisurâ siphonali angustâ, profundâ. Long.  $\frac{7}{20}$ ; lat.  $\frac{1}{5}$  poll. *Hab.* Pacific Ocean.

This very pretty shell is well marked by its short conical form, its few prominent ribs, shouldered whorls, and thread-like vitta. It accords well with *Bucc. Jonasii*, Dunker, except that one of the principal characters of that shell is to have the interior of the lip smooth.

*NASSA CASTA*. Testa tenuis, lanceolata, vitrea, alba fasciis rubiginosis binis cincta, longitud. costato-plicata; plicis ad 14, striis remotis volventibus decussantibus: spira acuto-conica, anfr. 8 convexiusculis, apicalibus politis, ultimo  $\frac{2}{3}$  long. testæ adequante: apertura elliptica; labro acuto, intus 11-striato; columellâ callosâ, concinnè corrugatâ; sinu siphonali amplo. Long.  $\frac{2}{5}$ ; lat.  $\frac{1}{5}$  poll. *Hab.* Pacific Ocean.

This elongated, glistening shell has no one with which it may be well compared. It is a little like *Bucc. macula* in size and form, but in other respects it is more like *B. Cuvieri*.

*NASSA ACINOSA*. T. solida, ventricosa, ovata, lutescens cine-



reo obscure fasciata, papillis e sulcis volventibus et longitudinalibus æquè remotis ubique obsita, serie suturali majori: spira conica, anfr. ad 8 planis, declivibus, supernè tabulatis, ultimo magno, ventricoso: apertura parva, angusta; labro acuto posticè sinuato, intus 5-6 sulcato; columellà valdè concavâ, posticè lamelligerâ, callo tenui indutâ; regione siphonali plano, albo, sinu amplo, profundo; fauce fusco-fasciatâ. Long.  $\frac{7}{10}$ ; lat.  $\frac{4}{10}$  poll. *Hab.* — ?

Differs from the shell given by Kiener as young *B. marginulatum* by its more ventricose form, much coarser sculpture, less elongated spire, and the presence of the posterior lamina on the pillar. It may be compared with *Bucc. Gruneri*, Dunker.

*NASSA PAUPERA.* T. parva, solida, ovato-lanceolata, albida lineâ rufâ unicâ cincta, longitrorsum 18-costulata, et liris continuis cincta: spira acuto-conica, anfr. 6-7 ventricosis, ultimo brevi, subgloboso; suturâ profundâ: apertura parva, subcircularis,  $\frac{1}{3}$  long. testæ adequans; labro arcuato, intus 10-striato; columellâ anticè productâ, callo granuloso haud appresso parçè indutâ. Long.  $\frac{3}{8}$ ; lat.  $\frac{1}{5}$  poll. *Hab.* Pacific Ocean.

Much resembling *Bucc. coccinella*, but smaller, less ponderous, more slender, the last whorl proportionally larger, the ribs less numerous, but the revolving lines more so.

*NASSA MENDICA.* Testa parva, rudis, solidula, elongata, rufo-cinerea, longitrorsum undato-plicata, spiraliter crebrè lirata, epidermide tenui lutoso induta: spira elongata, anfr. 6-7 ventricosis, ultimo ellipsoideo, dimidiam long. testæ superante: apertura parva, alba, ovata; labro simplici, vix crenulato, intus 10-laminato; columellâ productâ, arcuatâ, vix callosâ; sinu siphonali amplo. Long.  $\frac{4}{5}$ ; lat.  $\frac{2}{5}$  poll. *Hab.* Puget Sound, Nisqually, &c.

A somewhat rude shell, very variable in its surface, being the Pacific analogue of *N. trivittata*, Say. It is more solid, more undulated, less shouldered, its pillar lip more protracted, and its aperture smaller. It is also closely allied to *N. perpinguis*, Hinds, from the California coast, though differing essentially from his description and figure.

*NASSA RUBRICATA.* Testa parva, elongata, ovata, granulata, epidermide fulvo lineis interruptis rufis cincto induta, longitrorsum 15-costato-plicata, plicis ad anfr. ultimum obliquis, versus

labrum evanescentibus, et striis impressis decussatis; striâ suturali majori, seriem gemmularum efformante: spira acuto-conica, anfr. 6 convexiusculis: apertura  $\frac{1}{2}$  long. testæ haud equans, rotundato-ovata, lactea; labro intus crenulato; sinu siphonali mediocri. Long.  $\frac{5}{8}$ ; lat.  $\frac{1}{3}$  poll. *Hab.* Pacific shore.

I know not any species with which to compare this, except perhaps, *Bucc. corrugatum*, from which it differs in its aperture. Its elongated form, oblique folds on the outer whorl, and its white aperture, are its most conspicuous characters. The revolving fawn-colored lines only appear when its deep brown epidermis is removed.

**COLUMBELLA VALGA.** T. ovato-lanceolata, sub-distorta, fulvo-marmorata et lineolis crebris rufis cincta, ad apicem rosacea: spira acuminata, anfr. 9–10 convexiusculis, supernis longitrorum tenuiter plicatis, ultimo lævi, contracto, cæteris nonconformis  $\frac{2}{3}$  long. testæ adequante; suturâ profundâ: apertura angusta, lunata; labro arcuato acuto, intus sulcato: columellâ transversim plicatâ, callosâ; sinu siphonali angusto, producto. Long.  $\frac{1}{2}$ ; lat.  $\frac{1}{5}$  poll. *Hab.* Pacific?

Closely allied to *C. avara*, Say, in form, size, and ground color, but readily distinguished by its distorted form, the encircling chestnut lines, and the want of revolving striæ between the folds.

**COLUMBELLA CASTANEA.** T. parva, solida, elongata, ovata, lævis, castanea vel fasciâ angustâ albidâ cincta: spira ovato-conica, anfr. 7 convexus, ultimo ovali  $\frac{2}{3}$  long. testæ superante, ad basim spiraliter striato: apertura ampla, alba; labro recto, posticè emarginato, rufo-tincto, intus sub-plicato; columellâ anticè plicatâ; sinu siphonali amplo. Long.  $\frac{1}{2}$ ; lat.  $\frac{3}{8}$  poll. *Hab.* Rio Janeiro.

Compared with *C. unicolor* it is smaller, the aperture is less rotund, and it has a pale cincture.

**COLUMBELLA GAUSAPATA.** T. parva, solidula, elongata, ovato-conica, ad basim spiraliter striata, sub epidermide rudi subrufo concinnè rufo-reticulata vel variemodè maculata aut fasciata: spira conico-turrita, anfr. 6–7 convexiusculis, ultimo  $\frac{2}{3}$  long. testæ, anticè subitò in rostrum brevem angustato; suturâ valdè impressâ: apertura angusta lunata; labro simplici, rufo, intus sparsè denticulato. Long.  $\frac{1}{2}$ ; lat.  $\frac{1}{5}$  poll. *Hab.* Puget Sound.

An inelegant, very simple species allied to the preceding ; but it is less ventricose, the aperture paler and narrower, which with its tough, wooly epidermis sufficiently characterize it. Beneath the epidermis it is polished and finely reticulated, blotched or banded.

MITRA VITELLINA. T. lanceolata, solida, dilutè aurantia maculis albis fasciata, sulcis linearibus ad 15 lyrata et striis tenuibus crebris cincta ; intersectionibus punctatis : spira elevata, anfr. 8-9 planis, ultimo  $\frac{2}{3}$  long. testæ, cylindræco, anticè angustato : apertura angusta ; labro recto, simplici ; columellâ 4-plicatâ, sinu siphonali brevi, vix recurvo. Long.  $1\frac{3}{4}$  ; lat.  $\frac{7}{8}$  poll. Hab. — ?

An elegant species about the size of *M. subulata*, having the general form and coloration of *M. glabra*, Sw., and is sculptured more like *M. impressa*, Reeve.

MITRA FIDICULA. T. lanceolato-fusiformis, livido-crocea, fasciâ albidâ unicâ cincta, plicis acutis albidis ad 12 lyrata ; spira anfr. 9 planulatis posticè tabulatis, apicalibus (ultimo etiam ad basim) spiraliter striatis : apertura angusta, intus tenui-striata ; columellâ 4-plicatâ ; fauce rufo ; canali siphonali curto, ferè recto. Long.  $\frac{3}{4}$  ; lat.  $\frac{3}{10}$  poll. Hab. — ?

There is no species corresponding very nearly to this. Perhaps *M. cinerea*, Reeve, resembles it as much as any one.

MITRA COPHINA. T. fusiformis, albida, liris volventibus et liris longitudinalibus altioribus ubique reticulata ; areolis interceptis profundis : spira turrita, anfr. 9-10 planiusculis subtabulatis, ultimo antrorsum in rostrum contortum subitò desinente : apertura angusta, flexuosa, posticè obtusa ; columellâ 4 plicatâ, plicis antrorsum minoribus. Long.  $\frac{8}{10}$  ; lat.  $\frac{3}{10}$  poll. Hab. Singapore.

The form, size, and color is like *M. suturata*, Reeve, but the sculpture is quite different, that species having no longitudinal ridges, and the transverse grooves are described as deep and punctured, and the intermediate ridges slightly granose.

MITRA RORATA. T. modica, solida, lanceolata, cinerea rubiginoso-marmorata, clathris longitudinalibus quadratis ad 30 et striis tenuibus volventibus decussata : spira elevata, anfr. 9-10 planis posticè angulatis ; ultimo cylindræco anticè sensim attenuato, dimidiam long. testæ superante : apertura angusta, labro

acuto, roseo, 13-sulcolato ; columellâ 4 plicata ; rostro lato obliquè reflexiusculo ; fauce incarnatâ. Long.  $\frac{4}{5}$  ; lat.  $\frac{3}{10}$  poll. *Hab.*—?

The form and sculpture is much like that of *M. hebes*, Reeve, but the coloring is more like *M. crenifera*. It is more cylindrical and the bars are less prominent than *M. cophina*, besides the difference in coloration.

MITRA CAPILLATA. T. parvula, elongata, ovato-fusiformis, polita, rufo-castanea lineolis longitudinalibus flexuosis croceis ornata : spira acuto-conica, anfr. 7 convexiusculis, ultimo bifariam attenuato, anticè striis prominulis cincto ; suturâ impressâ : apertura  $\frac{1}{2}$  long. testæ, angusta, elliptica ; columellâ 3-plicata, posticè callosâ ; fauce luridâ. Long.  $\frac{9}{20}$  ; lat.  $\frac{1}{5}$  poll. *Hab.* Madeira.

This beautiful little shell is easily identified by its dark mahogany color and its delicate yellow lineations, like those on some species of Neritina. *M. semen*, Reeve, which is not so slender, and has fewer and broader lines, is the only species approaching it.

MITRA ENCAUSTA. T. parvula, solida, curta, ovato-rhomboidea, cinerea, longitrorsum 8–9 plicata et sulcis fusciscentibus cincta : spira conica, anfr. 8 ventricosis, supernis granulosis, ultimo  $\frac{2}{3}$  long. testæ adequante ; suturâ canaliculatâ : apertura parva, linearis ; labro acuto, vix sulcato ; columellâ plicatâ, posticè callo copioso indutâ. Long.  $\frac{7}{10}$  ; lat.  $\frac{1}{5}$  poll. *Hab.* Feejee Islands.

A small, very decidedly marked species, most remarkable for the deeply incised, somewhat punctate, dark revolving lines on an ash-colored ground, its wave-like folds and its short rhomboidal form.

CONUS DILECTUS. T. parva, gracilis, conica, albida, ferrugineo concinnè reticulata et seriebus binis macularum candidarum et rufarum alternantium cincta : spira elevata, concavo-conica ; anfr. 8–9, angulatis, coronatis, posticè striatis, ultimo inermi, anticè 6–8 sulcato : apertura linearis ; columellâ rectâ ; fauce incarnatâ. Long.  $\frac{1}{2}$  ; lat.  $\frac{1}{4}$  poll. *Hab.* Feejee Islands.

PHOLAS PATULA. T. oblonga, papyracea, alba, inequilateralis, concentricè undato-striata, constrictione mediano partita ; latere antico triangulari, radiatim costato, costis ad undas tuberculiferis ; latere postico subquadrato, inermi : margine cardinali revoluto,



umbonem tegente sed non adnato, callum dentiformem instructo : cochleâ subulatâ, arcuatâ : cavositate ad undas, costas et tuberculos indentato. Long. 3; lat.  $1\frac{1}{5}$ ; alt.  $1\frac{1}{5}$  poll. *Hab.* Philippine Islands.

The shell most nearly approaching to this is *P. latissima*, Sowb., and possibly may be the same species. It also resembles *P. truncata*. It is remarkable for the breadth of the valves.

**SOLENS SCALPRUM.** Testa transversa, oblonga, retrorsum dilatata, ferè unilateralis, tenuis, lucida, epidermide flavo-viridi, nitido, iridescente induta; latere antico sub-acuto, obliquè rotundato; latere postico semicirculari: cardo dentibus duobus contiguis, divergentibus in v. dextrâ; dente subulato, arcuato in v. sinistrâ; margine cardinali costâ albâ submarginali suffulto: interior albida. Long.  $1\frac{3}{4}$ ; lat.  $\frac{5}{8}$ ; alt.  $\frac{3}{10}$  poll. *Hab.* Singapore.

Allied to *Solecurtus costatus* and *radiatus*. The hinge margin is fortified by a thickening, and indeed there is the vestige of a rib passing from the beak to the ventral margin.

**SOLENS SICARIUS.** T. transversa, oblonga, retrorsum angustata, sub-falcata, epidermide crasso, nitido, corneo induta, anticè obliquè truncata, posticè rotundata: valvis valdè excavatis, undulatis, in arcis triangularibus indistinctè partitis; margine dorsali recto; m. ventrali arcuato; natibus terminalibus: cardo dente triangulari, erecto, recurvo in utrâque valvâ instructus. Long.  $3\frac{1}{2}$ ; lat.  $\frac{7}{10}$ ; alt.  $\frac{9}{10}$  poll. *Hab.* Straits of De Fuca, Oregon.

The only species to which this bears any resemblance is *S. viridis*, which has nearly the same hinge and general form, but which is a more delicate and more slender shell.

**PANOPŒA ANTARCTICA.** T. subquadrata, crassa, alba, rudis, concentricè undata, posticè truncata, anticè angustata et rotundata; margine cardinali erecto, margine ventrali arcuato; umbonibus latis, elevatis, ferè medianis: cardo dente parvo, conico instructa: sinu palleali lato, arcuato, minimè impresso; cicatrice musculari posticâ discretâ, crescentiformi. Long.  $2\frac{1}{2}$ ; alt. 2; lat.  $1\frac{1}{2}$ . *Hab.* Rio Negro, Patagonia.

Besides being destitute of ribs, it is more nearly equilateral than *P. arctica*, and has the beaks more posterior. It is less gaping, and the posterior truncation is scarcely oblique.

**PANOPÆA GENEROSA.** Testa magna, ponderosa, calcarea, sub-quadrilateralis, concentricè unduloso-plicosa, epidermide rugoso flavido induta, anticè rotundata, posticè truncata et valdè hians; umbonibus submedianis, acutis, elevatis, undulatis: cardo gracilis, dente elevato obliquè triangulari instructus: cavositas ad apicem profunda; cicatrice musculari lato, benè impresso; sinu siphonali minimè profundo. Long. 6; alt. 4; lat. 3 poll. *Hab.* Puget Sound, Oregon.

This large species stands by the side of *P. Aldrovandi*, but is distinguished by the form of the anterior extremity.

**MYA PRÆCISA.** *T. M. truncata* similis, calcarea, epidermidecorneo induta, ovata, anticè rotundata et ventricosa, posticè angustata, compressa et truncata; cardo dente trapezoideo, latiore quam elevato, posticè declivo instructus; lineâ palleali angustâ, crenatâ; sinu siphonali profundo, arcuato; cicatrice anteriori elongato, falciformi. Long.  $2\frac{1}{2}$ ; lat. 1; alt.  $1\frac{3}{4}$  poll. *Hab.* Puget Sound.

Differs from *M. truncata* in being more narrowed posteriorly, more rounded anteriorly, more inflated at the umbonal slope, in its narrow palleal impression and deeper siphonal sinus, and more particularly in having the tooth slope backwards.

**MACTRA DELUTA.** *T. tumida*, ovato-rotundata, hiantissima, sordida, epidermide tenui deluto, obliquè corrugato induta, concentricè undulata; umbonibus submedianis, tumidis, incumben-tibus, contiguïs; margine dorsali utroque declivi; margine ven-trali rotundato; lateribus obtusis: cardinis foveâ ligamentali profundâ; dente V-formi gracili, ramis inequalibus; dentibus lateralibus brevibus, trigonis, compressis; sinu siphonali propè centrum valvæ obducto. Long.  $1\frac{7}{8}$ ; alt.  $1\frac{6}{8}$ ; lat.  $1\frac{1}{10}$  poll. *Hab.* New Zealand.

The external appearance is rather that of a rude Venus, and has fewer angularities than any other Mactra. It is also peculiar for its very wide gape.

**MACTRA CUNEOLA.** *T. parva*, crassiuscula, rudis, ovato-cune-ata, albida, epidermide stramineo induta, concentricè striata; umbonibus submedianis, tumidis, acutis, antever-sis; latere antico angustato, subacuto; latere siphonali breviori, tumidiori, subtruncato: area cardinalis minima; foveâ ligamentali indis-

tinctâ ; dente V-formi conspicuo ; dentibus lateralibus curtis, elevatis ; sinu siphonali minimo, quadrantem testæ solum transeunte. Long.  $\frac{5}{8}$  ; alt.  $\frac{1}{2}$  ; lat.  $\frac{3}{10}$  poll. *Hab.* Callao.

In most of its characters it corresponds with our *M. lateralis* ; but in this shell it is the posterior end which is shortest and broadest, while the reverse is the case in that species.

**MACTRA MARCIDA.** T. ventricosa, ovato-triangularis, cretacea, epidermide tenui stramineo induta ; umbonibus medianis, tumidis, remotis, vix anteversis ; latere antico breviori, rotundato ; latere siphonali subtriangulato, acuto ; margine ventrali arcuato : fovea ligamentalis ampla ; dente V-formi parvo, prominente ; dentibus lateralibus crassis, parum elevatis : interior cretacea ; sinu siphonali parvo, trientem testæ attingente. Long.  $2\frac{3}{4}$  ; alt.  $2\frac{1}{4}$  ; lat.  $1\frac{1}{2}$  poll. *Hab.* Orange Harbor.

This species has precisely the form of *M. lactea*, but is a much more solid and rude shell, wanting also the decided dorsal angularities of the umbones.

**MACTRA FALCATA.** Testa magna, transversa, ovato-trigona, inequilateralis, convexiuscula, modicè hians, albida, epidermide fulvo, nitido, concentricè rugoso induta ; umbonibus acutis, approximatis ; latere antico acuminato ; latere siphonali latè rotundato, sub-truncato ; margine dorsali recto ; areâ dorsali planulatâ, lanceolatâ ; margine ventrali leniter arcuato : area cardinalis ampla ; fossâ ligamentali magnâ, dente V-formi parvo, crasso ; dentibus lateralibus compressis, quorum antico valvæ dextræ bilobato : interior lactea ; sinu siphonali angusto, elongato, spatulato. Long.  $3\frac{3}{4}$  ; alt.  $2\frac{1}{2}$  ; lat.  $1\frac{1}{8}$  poll. *Hab.* Puget Sound, Oregon.

This fine species compares best with *M. Brasiliana* and *M. ovalis*. Its external form corresponds closely with the former, while the narrow siphonal sinus and the hinge closely resemble the latter. The bilobed lateral tooth is quite peculiar.

**LUTRARIA CAPAX.** Testa magnifica, ventricosa, ovato-rotundata, anticè rotundata, posticè sub-triangularis, truncata, valdè hians, concentricè undulato-striata, epidermide luteo-viridi (post costam medianum radiatim corrugato) induta ; umbonibus tumidis, incumbens, attigens : cardo validus ; foveâ latâ, obliquè triangulari ; dente cardinali crasso, erecto, plicato, basi

appendiculato; dentibus lateralibus compressis, conspicuis: interior calcarea; sinu siphonali linguiformi, dimidiam longitudinis testæ attigente. Long.  $5\frac{3}{4}$ ; alt. 4; lat. 3 poll. *Hab.* Puget Sound.

No other species approaches this in size and capacity.

*MESODESMA MUNDA.* T. parva, solidula, convexiuscula, ovato-triangularis, lævis, epidermide stramineo induta; natibus post-medianis, acutis; margine dorsali vix arcuato, posticè subito declivi; latere antico angustato, acuto; latere postico rotundato; margine ventrali valdè arcuato: interior flavescens, cicatricibus impressis: cardo dentibus validis instructus. Long.  $\frac{3}{4}$ ; alt.  $\frac{5}{8}$ ; lat.  $\frac{3}{10}$  poll. *Hab.* Mangsi Island.

Distinguished from *M. striata* by its more compressed, less angular form, its short, broad, rounded anterior end, there being no angle except at the beaks, and by its smooth surface.

*PANDORA CISTULA.* Testa solida, alba, valdè inequilateralis, falciformis, anticè rotundata, posticè angustata, truncata: valva plana tenuis, submargaritacea, concentricè undulata; margine dorsali subrecto, latè inflecto, unidentato, dente brevi, elevato, triangulari munito: valva concava solidior, ossea, tumida, posticè costato-angulata, edentula, fossâ ligamentali et costâ anticali instructa; margine dorsali concavo; margine ventrali valdè arcuato. Long.  $1\frac{1}{8}$ ; lat.  $\frac{1}{2}$ ; alt.  $1\frac{1}{10}$  poll. *Hab.* East Patagonia.

More solid, more concave, and more elongated than any species I am acquainted with. The upper valve of a small specimen from the same locality is semicircular, but more acute anteriorly than posteriorly.

*OSTEODESMA BRACTEATA.* Testa parva, tenuis, transversa, inequilateralis, ovato-falcata, ventricosa, margaritacea, epidermide fusco radiatim creberrimè rugoso induta; latere antico rotundato; latere siphonali duplo longiore, triangulari, subadscendente, truncato; margine dorsali recto; margine ventrali arcuato, sub-pendulo: interior deaurata. Long.  $\frac{3}{4}$ ; alt.  $\frac{3}{8}$  poll. *Hab.* Puget Sound.

It is with some doubt that I separate this from *O. hyalina*; but if its gilded nacre, its dusky colored, very numerous folded epidermis, and the ventricose, pouched form of the pos-



terior basal portion prove constant, there can be no room for doubt.

*OSTEODESMA BRASILIENSIS* (Couthouy, MS.) Testa fragilis, elongato-ovata, anticè ventricosa et truncata, posticè compressa, concentricè undulata, epidermide flavicante induta; umbonibus ante-medianis, tumidis, approximatis; margine dorsali ferè rectilineari; margine ventrali arcuato: interior margaritacea: ossiculum parvum, oblongum. Long.  $1\frac{1}{2}$ ; alt.  $\frac{3}{4}$  poll. *Hab.* Rio Janeiro.

Its elongated, leguminous form, and its large size, plainly characterize it.

*AMPHIDESMA CROCEUM.* Testa maxima, crassa, calcarea, inequivalvis, subcircularis, posticè hiantula et sub-truncata, liris concentricis reflexis interdum divaricatis arata, radiatim striata; umbonibus sub-medianis, eminentibus, acutis, contiguis: intus crocea; cardo validus, foveâ ligamentali amplâ, profundâ; dentibus rosaceis. Long.  $3\frac{1}{2}$ ; alt.  $3\frac{1}{4}$ ; lat.  $1\frac{1}{4}$  poll. *Hab.* Callao?

Very distinct from all other described species, unless it may be *A. solidum*, Gray; from comparison with his description alone, this must be different.

*ERYCINA (PORONIA) OVATA.* T. parva, alba, nitida, concentricè striata, ovato-ventricosa, inequilateralis; margine cardinali arcuata, umbonibus parvis, antemedianis; margine ventrali parum arcuata; latere antico truncato; latere postico rotundato; valvæ dextræ dente cardinali erecto, bifido, foveâ ligamentali parvâ; v. s. dente integro; intus alba. Long.  $\frac{3}{25}$ ; alt.  $\frac{1}{4}$ ; lat.  $\frac{1}{5}$  poll. *Hab.* Sandwich Islands.

Differs from the succeeding species in its smaller size, more inequilateral, ovate-ventricose form, shining surface, and delicate hinge.

*ERYCINA (KELLIA) QUADRATA.* Testa parva, tenuis, ventricosa, ad angulos rotundata, concentricè et concinnè striata, epidermide stramineâ induta; umbonibus ferè medianis, tumidis, anteveris: area cardinalis ampliata, in valvâ sinistrâ tridentata (dente mediano subulato, sub umbone sito; alteris elongatis, compressis) in valvâ dextrâ bidentata; fossâ ligamentali triangulari, declivi. Long.  $\frac{1}{2}$ ; alt.  $\frac{2}{3}$ ; lat.  $\frac{1}{4}$  poll. *Hab.* Feejee Islands?

This is a very large species of its type, and closely resembles, in size and shape, *Cyclas similis*.

**TELLINA TITHONIA.** Testa transversa, oblonga, subequilateralis, zonis et radiis diversis albis et roseis picta, concentricè lirata, liris posticè lamellosis; latere antico semiovali; latere postico breviori, triangulari, ad apicem truncato; plicâ profundâ; margine dorsali recto, declivi; interior incarnata, ad marginem roseo-maculata, versus apicem lutea; dentibus lateralibus satis conspicuis. Long.  $1\frac{3}{4}$ ; alt.  $\frac{7}{8}$  poll. *Hab.* Sooloo Sea.

Intermediate between *T. rastellum* and *T. pulchella*, being smaller and of the same shape as the former, but without its peculiar squamous sculpture of the right valve; and being larger and more roseate than the latter, and from a very different locality. It is colored like *T. virgata*, externally, but is more slender, and deeply colored within also.

**TELLINA LAUTA.** *T. parva*, solidiuscula, oblonga, inequivalvis, umbonibus ad trientem posticalem longitudinis sitis; latere antico semiovali, margine dorsali recto, latere postico triangulari ad apicem truncato; valvis concentricè liratis (liris striis obliquis anticè decussatis) albis, roseo quadri-radiatis et anticè lineis araneosis rosaceis ornatis; flexurâ inconspicuâ: cardo dentibus lateralibus carens. Long.  $\frac{7}{10}$ ; alt.  $\frac{4}{10}$  poll. *Hab.* ?

About the size, form, and coloring of *T. Valtonis*, Hanley, which appears to be a polished, pellucid shell, with no peculiarity of sculpture. It is very near to *T. rhomboides*, Quoy, which is said to have fine concentric striæ anteriorly, that become obsolete at the middle.

**TELLINA COMPTA.** *T. parva*, transversa, inequilateralis, alba vel rubescens, quater roseo-radiata; umbonibus ad trientem posticum sitis; latere antico semi-elliptico; latere siphonali triangulari apice truncato, vix insculpto, plicato; marginibus (scilicet dorsali et ventrali,) ferè parallelis; disco striis concentricis et striis obliquis arato; dentibus lateralibus nullis; intus ex albo flavescens, radiatim striata. Long.  $\frac{5}{8}$ ; alt.  $\frac{1}{3}$ ; lat.  $\frac{1}{3}$  poll. *Hab.*

Almost precisely like *T. decora*, which has a well marked lateral tooth, and comes from the West Indies. *T. rhomboides*, Quoy, varies chiefly in the more partial development of oblique striæ. The coloring is less brilliant, and the striæ more delicate,

more oblique, and cover a greater proportion of the valve than *T. lauta*.

**TELLINA EXCULTA.** *T. transversa*, solida, trigono-elliptica, tumida, nitida, albida, rosaceo vix radiata, concentricè liris tenuibus et radiatim striis tenuissimis insculpta; liris in valvâ dextrâ posticè lamellosis et interruptis, squamas simulantibus; in valvâ sinistrâ disco valdè obliquis; umbonibus postmedianis; latere anticali semi-elliptica; latere posticali subtriangulari, ad apicem valdè truncato; flexurâ insigni, haud lamellosâ: cavositas flava; dentibus valvæ dextræ conspicuis. Long. 2; alt. 1; lat.  $\frac{9}{20}$  poll. *Hab.* Feejee Islands.

Looks like a variety of *T. rastellum*, Hanley, (*T. Philippii*, Anton,) but is proportionally shorter, the beaks are farther back, and the disc is more tumid anteriorly. The laminæ of the right valve are everywhere more delicate, and nearly absent on the anterior half; the scales are confined to the valley in front of the fold. The oblique grooving on the left valve is very decided.

**TELLINA CONCENTRICA.** *T. transversa*, ovato-trigona, tenuis, convexiuscula, albida, haud nitida, ubique concentricè lamellosa, et radiatim inter lamellas subtilissimè striata; lamellis æqualibus, acutis, confertis, reflexis; umbonibus vix post-medianis: pars antica semi-elliptica; margine dorsali vix declivi: pars postica sub-triangularis; margine dorsali valdè declivi, sub-arcuato, valdè excavato, ad apicem truncato; flexurâ conspicuâ, haud lamellosâ: intus alba. Long.  $1\frac{5}{8}$ ; alt.  $1\frac{1}{8}$ ; lat.  $\frac{1}{2}$  poll. *Hab.* Feejee Islands.

Like *T. capsoides*, Lam., but less triangular, the anterior portion more tumid, and its dorsal slope arcuate; the flexure is more decided; the concentric laminæ decided and uniform throughout; the radiating striæ are very delicate, and found equally before and behind, not crossing the concentric laminæ. It is much like *T. pristis*, Lam., except in form, and its anterior margin, which is represented as serrated.

**TELLINA PERULA.** *T. parvula*, solidiuscula, ventricosa, rotundato-triangularis, eburnea, concentricè et remotè striatula; umbonibus tumidis, submedianis, radiis binis lacteis ornatis; marginibus dorsalibus valdè declivibus; latere antico rotundato, tumido;

latere siphonali brevi, valdè flexuoso, infra angulato; margine ventrali pendulo; cavositatis limbo albo, disco sulphureo; dentibus lateralibus conspicuis. Long.  $\frac{1}{2}$ ; alt.  $\frac{2}{5}$ ; lat.  $\frac{3}{10}$  poll. *Hab.* Feejee Islands.

Very much like *T. casta*, Hanley, which is described as pellucid, and no mention is made of the yellow color of the interior, or of the two white umbonal radiations. One specimen is tinted and zoned with rose red, and the interior is wholly red, preserving however, the umbonal white rays.

**PSAMMOBIA FLORIDA.** Testa transversa, oblonga, tenera, polita, purpurascens, posticè albo-radiata; limbo epidermide flavo-virescente induto; natibus postmedianis, inconspicuis; latere antico semi-elliptico, apice supra-mediano; latere siphonali angustato, acutè rotundato, apice infra mediano; margine ventrali rectiusculo: interior incarnata; sinu siphonali angusto, prælongo; cardine dentibus duobus minutis divaricantibus in utrâque valvâ instructo. Long.  $1\frac{1}{4}$ ; alt.  $\frac{7}{10}$  poll. *Hab.* Illawarra, N. S. Wales.

A shell closely resembling in structure and exterior coloring *Machæra costata*. It has the form of *P. vespertina*, except that the beaks are removed much farther backwards.

**DONAX PALLIDUS.** Testa transversa, ovato-triangularis, solidula, convexa, exalbida, posticè concentricè sulculata, anticè polita; umbonibus postmedianis; margine dorsali utrinque declivi (præcipuè retrorsum) convexiusculo; latere antico semi-ovali, sensim angustato, ad apicem rotundato; latere postico sub-triangulari, rotundato; margine ventrali valdè arcuato, posticè sinuato: interior eburnea, incrassata; dentibus modicis. Long.  $\frac{3}{4}$ ; alt.  $\frac{1}{2}$ ; lat.  $\frac{1}{4}$  poll. *Hab.* Singapore.

The outlines are all gently rounded, and the shell is otherwise characterized by its dead, sallow-white color, and its sculpture.

**DONAX TINCTUS.** Testa crassa, ovato-trigona, cuneata, versicolor, scilicet incarnata, straminea vel violacea, striis lamellosis concentricis posticè flexuosis insculpta; umbonibus ferè medianis; margine interiori integro; dente laterali valido; dente antico obsoleto. Long.  $\frac{17}{10}$ ; alt.  $\frac{7}{10}$ ; lat.  $\frac{2}{5}$  poll. *Hab.*

It comes near to *D. cuneata*, but is still more like *Mesodesma*



*striata* in general aspect. The specimens I have examined vary greatly in color, but correspond in form, sculpture, and other characters.

**DONAX CROCATUS.** Testa parva, tenuis, transversa, ovato-triangularis, inequilateralis, dilutè crocea, concentricè lamellososulcata; latere antico semi-ovato; latere postico breviori, rotundato-truncato; margine ventrali lentè arcuato: intus flavida, nitida; cardine valido. Long.  $\frac{2}{5}$ ; alt.  $\frac{1}{4}$ ; lat.  $\frac{2}{10}$  poll. *Hab.* Mangsi Island.

This small species is sufficiently well characterized, somewhat like *D. scalpellum*.

**LUCINA RAMULOSA.** Testa crassa, scabra, lenticularis, vix obliqua, albida, costulis radiantibus crebrè divaricantibus et filis continuis concentricis crebris insculpta; umbonibus elevatis acutis antrorsum versis; lunulâ excavatâ, haud insculptâ: cavositas albida vel citrina, incrassata; cicatricibus profundis; limbo concinnè radiato-striato; cardinis dentibus lateralibus validis. Diam. 1; lat.  $\frac{1}{2}$  poll. *Hab.* Paumotu Islands.

As much allied to *L. tigerina* or *L. interrupta* as to any described species, but is more circular, more solid, and the peculiar divergence of the radiating ridges, somewhat like *Cytherea divaricata*, are sufficiently characteristic.

**LUCINA INCULTA.** Testa tenuis, lenticularis, retrorsum admodum obliqua, stramineo-albida, concentricè striolata; natibus medianis, elevatis, acutis, contiguis, antrorsum versis; latere antico supernè subangulato, excavato; latere postico rotundato, infra paululum producto: cavositas albida; cicatricibus perspicuis: cardo invalidus; dentibus apicalibus duobus divaricatis, laterali-bus nullis. Diam.  $\frac{3}{4}$ ; lat.  $\frac{3}{8}$  poll. *Hab.* New Zealand.

Very much like *L. filan*, but much smaller, more solid, and less glossy. The anterior end is less developed, and the bulk of the shell, as well as its most depending portion, is behind, instead of before, the beaks.

**LUCINA VESICULA.** Testa tenuis, sub-globosa, vix obliqua, pallidè flavescens, concentricè tenui-striata, radiatim obsoletè striata: natibus submedianis, elevatis, anteveris; margine dorsali anticè excavato, demum subalato, posticè rectiusculo; peripheriâ reliquâ circulari; cardine edentulo; ligamento in fossam obli-

quam internam posito: concavitas flavescens, punctis nitidis notata. Long.  $1\frac{1}{4}$ ; alt.  $1\frac{1}{8}$ ; lat.  $\frac{7}{8}$  poll. *Hab.* Tongataboo.

Its surface is like *L. filan*, but its form is more ventricose, and its dorsal margin is much less sloping, somewhat alate; and this is one of its most striking peculiarities. In form it is more like *L. undata*, except that the reverse extremities correspond.

**LUCINA LENTICULA.** Testa parva, solidula, lenticularis, rotundata, convexiuscula, concentricè imbricato-striata, etiam striis radiantibus decussata, alba, epidermide fuliginoso hic illic induta; umbonibus ferè medianis, prominulis: cardo dentibus apicalibus et lateralibus tenuibus instructus: intus incrassata, alba; margine crenulato; impressionibus profundis. Diam.  $\frac{2}{5}$ ; lat.  $\frac{3}{10}$  poll. *Hab.* Coast of Patagonia?

This little shell has rather the aspect of an *Astarte* or *Cyprina*, and would be considered as such but for its lateral hinge teeth.

**CARDITA VENTRICOSA.** Testa solida, ventricosa, ovato-trigona vix obliqua, radiatim 18–20 costata, costis concentricè subnodosis, interstitiis angustis, epidermide fuliginoso, villosa induta; umbonibus submedianis, obtusis; intus alba; margine profundè crenulato; dente cardinali valvæ dextræ, elevato, crasso, triangulari. Lat.  $\frac{3}{4}$ ; alt.  $\frac{5}{8}$ ; lat.  $\frac{1}{2}$  poll. *Hab.* Puget Sound.

Compared with *C. borealis*, Conr., it is thicker, less transverse, more tumid at the beaks, which are less recurved; the ribs are barred; the cardinal tooth is short, triangular (not long falcate) and detached from the margin; the crenulations of the margin deeper.

**CARDITA PROCERA.** Testa elevata, ovato-triangularis, radiatim ad 15-sulcata, (interstitiis convexiusculis) concentricè striata, epidermide fulvo induta; apice mediano, acuto, obliquo; cardo dente unico triangulari obliquo, instructus; margine interno sulcato. Long.  $\frac{3}{5}$ ; alt.  $\frac{3}{5}$ ; lat.  $\frac{1}{5}$  poll. *Hab.* Rio Negro, Patagonia.

It has a more compressed and less oblique form than *C. borealis*, and fewer ribs. The right valve only was obtained.

**CARDIUM BLANDUM.** Testa parva, tenuis, subcircularis, vix transversa, ventricosa, posticè subtruncata, cinereo-rufescens, costis planulatis radiantibus ad 40 insculpta, sulco angusto

sejunctis, et liris concentricis tenuissimis, arcuatis, reflexis, decussatis : umbonibus medianis, tumidis, denudatis, eburneis : cavositas albida ; margine interno crenulato ; cardine debili. Long. 1 ; alt.  $\frac{1}{2}$  ; lat.  $\frac{2}{5}$  poll. *Hab.* Puget Sound.

I at first supposed this to be the young of *C. Californianum*, Conr., but find that there are about ten more ribs, and the sculpture is quite different. It seems to be the analogue of *C. Icelandicum*, which has acute ribs and a peculiar fringed epidermis. Its form varies from circular to transversely oval.

CYPRICARDIA ROSEA. Testa transversa, oblonga, tenuis, anticè radiatim tenui-striata, posticè concentricè squamoso-striata : umbonibus valdè anticalibus, acutis ; latere antico brevi, citò angustato, ad apicem truncato, albido ; latere postico oblongo, ad apicem truncato, rosaceo ; margine dorsali vix arcuato ; margine ventrali recto : intus rosacea ; cardo debilis, dentibus ferè longitudinalibus. Long.  $1\frac{3}{4}$  ; alt.  $\frac{2}{5}$  ; lat.  $\frac{2}{5}$  poll. *Hab.* Feejee Islands.

Allied to *C. solenoides*, Reeve, which is much more elongated, has purplish rays, and is only tinted purple posteriorly, within. *C. coralliophaga*, Reeve, is somewhat more elongated, more laminated posteriorly, and radiate striate, and the edge only, tinted rose-red within.

ARTHEMIS LAMBATA. Testa tenuis, cordato-orbicularis, lenticularis, sordidè alba, radiatim tenuissimè striata et liris concin-nis concentricis, posticè laminosis insculpta ; natibus sub-media-nis elevatis, acutis, anteversis ; margine dorsali postico declivi, vix arcuato : lunula profunda, lanceolato-cordata : interior albida ; sinu siphonali obliquo, acuto ; cardine dentibus tribus divergen-tibus in utrâque valvâ. Long. 1 ; alt.  $\frac{9}{10}$  ; lat.  $\frac{1}{2}$  poll. *Hab.* Bay of Islands.

*A. lincta* is more elevated, has the ridges about twice as large, is destitute of radiating striæ, is more solid, and has the ligament margin excavated, and the siphonal sinus is narrower and more acute.

VENUS TOREUMA. Testa ventricosa, subglobosa, vix obliqua, straminea lituris angulatis rufis picta, concentricè porcata ; liris numerosis ad lateros granulosis, acutis, crenulatis ; interstitiis minutissimè striatis, et lincolis angulatis pallidis quasi indentatis ;

natibus sub-medianis, tumidis, obliquis; lunula profunda, latè cordata: intus pallida; margine crenulato: cardo validus; dente postico valvæ sinistræ longitudinali; dente antico biramoso. Long.  $1\frac{3}{8}$ ; alt.  $1\frac{1}{4}$ ; lat.  $\frac{9}{10}$  poll. *Hab.* Mangsi Island.

In general characters it is allied to *V. verrucosa*, but is more orbicular, more tumid, and its sculpture far more delicate and elaborate, besides being beautifully ornamented with tent-like markings in the intercostal spaces.

**VENUS CALCAREA.** Testa ovato-rotundata, alba, crassa, inequilateralis, posticè subtruncata, striis concentricis, irregularibus, remotis, lamellosis signata; natibus acutis, attigentibus; lunulâ duplici, ovato-lanceolatâ; intus candidissima; margine crenulato. Long.  $2\frac{1}{2}$ ; alt. 2; lat.  $1\frac{2}{5}$  poll. *Hab.* New Zealand.

**VENUS RIGIDA.** Testa solida, transversa, ovato-ventricosa, inequilateralis, desuper visa acutè ovalis, sordidè alba, striis concentricis reflexis, utroque laminosis, et striis crassis radiantibus decussata; decussationibus anterioribus punctatis; umbonibus elevatis, anteveris, contiguis: lunula lata, vix circumscripta: latere antico angustato, rotundato; latere postico latè et obliquè truncato; margine dorsali rectiusculo; cardine in dextrâ valvâ dentibus duobus fissis, in valvâ sinistrâ dente unico fisso: intus porcellana; margine crenulato. Long. 2; alt.  $1\frac{5}{8}$ ; lat.  $1\frac{1}{5}$  poll. *Hab.* Puget Sound; Straits of De Fuca.

Has the form and general aspect of *Savidomus Nuttalli*, Conrad, in which the hinge teeth are quite different, and there are no traces of diverging lines. The sculpture is much finer than in *V. Dombeyana*, and more like that of *V. decussata*. It varies considerably in its size and proportions, being often much more expanded. One specimen measured in length  $3\frac{3}{4}$ ; height  $2\frac{3}{4}$ ; breadth  $1\frac{1}{2}$  inches.

**ARCA SOBRIA.** Testa transversa, inequilateralis, rhomboidea, alba, costulis numerosis radiantibus, posticis majoribus, rugosis, instructa, et undulis remotis concentricis subreticulata; latere antico angusto, rectangulari, in marginem ventralem posticè desinente; latere postico obliquè truncato, ad apicem acuto; umbonibus elevatis, angulatis; arêâ cardinali angustâ lanceolatâ; cardo dentibus ad octo utrinque instructus. Long.  $\frac{3}{4}$ ; alt.  $\frac{9}{10}$ ; lat.  $\frac{7}{10}$  poll. *Hab.* — ?



It has the outline of *A. Deshayssi*, but is much smaller, more slender, more numerous ribbed, less acute posteriorly.

**CYCLAS EGREGIA.** T. ventricosa, transversa, oblonga, sub-equilateralis, concentricè tenui-lirata; umbonibus parum elevatis, tumidis; epidermide viridi-corneo, fusco-zonato; plerumque *C. corneæ* similis. Long.  $\frac{7}{8}$ ; alt.  $\frac{6}{8}$ ; lat.  $\frac{1}{2}$  poll. *Hab.* New South Wales?

It is larger, more rounded in outline, and more globose in form than *C. corneæ*. The epidermis is less glistening, of a deeper green, and exhibits no traces of radiations. The ligament is shorter and more prominent. The beaks, hinge, and furrowing are nearly the same in both.

**CYCLAS PATELLA.** T. parva, tenuis, rotundato-ovalis, lenticularis, modicè cavata, concentricè exiliter sulcata, epidermide luteo-viridi induta; umbonibus medianis, rotundatis, haud elevatis: intus lactea: cardo dentibus duobus minutis cardinalibus instructus; dentibus lateralibus remotis, validis. Long.  $\frac{1}{2}$ ; alt.  $\frac{3}{8}$ ; lat.  $\frac{1}{4}$  poll. *Hab.* Oregon.

This is to be compared with *C. corneæ* on account of the peculiar rounded form of the dorsal region, the umbones not rising so as to interfere with the general outline. The cavity of the beaks is still more shallow, the sulcation coarser, and the color yellowish rather than green, and on the whole the shell is more dense and larger.

**CYRENA DEBILIS.** T. parva, tenuis, transversè ovata, posticè ampliata et subtruncata, sub-equilateralis, concentricè liris confertis, sub-reflexis arata; epidermide nitido, supernè olivaceo induta; umbonibus parum elevatis, erosio, absque lunulâ: intus violaceo-albida; dentibus cardinalibus inconspicuis, dentibus lateralibus elongatis, striatis. Long.  $\frac{6}{10}$ ; alt.  $\frac{4}{10}$ ; lat.  $\frac{1}{4}$  poll. *Hab.* New Holland?

Most like *C. pusilla*, but has no arcola in front of the beaks, is less orbicular, and somewhat larger. In general it resembles a *Cyclas*.

**ANODON GLAUCA.** T. transversa, elongato-ovata, ventricosa, anticè rotundata, posticè obliquè rotundato et costâ obliquâ sub-marginali munita; margine dorsali arcuato; margine ventrali

concavo; umbonibus antemedianis, acutis, parum elevatis; epidermide olivaceo-glauescente fluctuatim corrugato induta: cavositas argentea; disco salmonaceo: cardo edentulus vel potius papillâ cardinali in valvâ dextrâ instructus. Long.  $1\frac{3}{8}$ ; alt.  $\frac{7}{8}$ ; lat.  $\frac{1}{2}$  poll. *Hab.* Peru.

The peculiar dead rusty-green color of the epidermis, with its loop-like corrugations may serve as distinctive marks. It would come under the genus *Monocondylea* of D'Orbigny.

*ANODON FEMINALIS.* T. solidula, transversa, ovato-triangularis, anticè acuminata, margine postico in margine dorsali continuo, arcuato; margine ventrali recto; apice rectangulari; umbonibus inconspicuis, erosis, anticis, declivitate posticali obtusè angulato; epidermide lamellosa, piceo: margarita purpurascens; limbo argenteo; dente cardinali obsoleto. Long.  $2\frac{1}{4}$ ; alt.  $1\frac{1}{4}$ ; lat.  $\frac{3}{4}$  poll. *Hab.* Oregon.

At first this was supposed to be the young of *A. angulata*, Lea; but it proves different in several constant characters, besides its widely remote habitat. It is much smaller and thinner, its surface rude and dusky, instead of smooth and green; its outlines are all curves instead of right lines; the dorsal and terminal outlines form a continuous curve instead of a distinct angle; the beaks are more anterior and the cardinal apophysis is never found in *A. angulata*, while it is constant in this.

*ANODON COGNATA.* T. fragilis, transversa, oblongo-ovata; margine dorsali brevi, recto; margine ventrali arcuato; latere antico rotundato; latere postico obliquè truncato, ad apicem rotundato; disco turgido; epidermide virescente, nitido; umbonibus antemedianis inconspicuis, undulatis: margarita livido-albida. Long. 3; alt.  $1\frac{1}{2}$ ; lat. 1 poll. *Hab.* Nisqually and near Fort Vancouver.

Resembles small specimens of *A. cygnea*; but the dorsal margin is shorter, not continuously straight, and forming an abrupt angle above, anteriorly; the posterior extremity is less acute and more nasute; the cavity of the beaks is also somewhat over-arched. Excepting the beaks, it is like *A. fluviatilis*.

*ALASNODON FALCATA.* T. transversa, valdè inequilateralis, falcata, anticè rotundata, posticè deflecta, acuta, marginibus subparallelis; disco sub-excavato; umbonibus obtusis, erosis; epider-

mide subfusco; dente cardinali in valvâ dextrâ elevato, trigono, in v. sinistrâ longitudinali, compresso-triangulari; margaritâ purpurascens; limbo argenteo. Long. 4; alt.  $1\frac{1}{2}$ ; lat. 1 poll. *Hab.* Wallawalla, Oregon; Sacramento River, California.

Mr. Lea and others have regarded this as a variety of *A. margaritifera*; but besides the uniformly peach-blossom naere, the form is generally more arcuate, the exterior more waved, the color darker, the anterior tooth in the right valve is comparatively obsolete, longitudinally oblique and lamellar in the young.

UNIO FAMELICUS. T. parva, tenuis, transversa, oblongo-ovata, convexiuscula, epidermide fusco-castaneo induta; margine dorsali arcuato; margine ventrali rectiusculo; latere antico angusto; latere postico obliquè rotundato; umbonibus haud elevatis ad quadrantem anteriorem sitis; dente cardinali obliquo, compresso, valido; dente laterali brevi, recto: margarita subpurpurea. Long.  $1\frac{1}{4}$ ; alt.  $\frac{3}{4}$ ; lat.  $\frac{3}{8}$  poll. *Hab.* Wallawalla, Oregon.

A small and rather remarkable species, like a miniature *U. complanatus*. It is more equilateral, has no dorsal angles, the dorsal and ventral margins diverge more, and the cardinal teeth are more oblique.

UNIO LUTULENTUS. T. transversa, compressa, sub-falcata, valdè inequilateralis, concentricè undulato-striata interdum nodosa vel sursum rugosa, fusco-virescens; lateribus rotundatis; marginibus sub-parallelis; umbonibus prominulis, erosio; dentibus cardinalibus obliquis, compressis, in valvâ dextrâ bifidis; dentibus lateralibus elongatis, compressis, rectis: margarita argentata; limbo anticè incrassato. Long. 2; alt. 1; lat.  $\frac{2}{3}$  poll. *Hab.* New Zealand.

Resembles *U. monodon*, and slender specimens of *U. complanatus*. It is not a fragile shell, and the peculiar tubercular waves along its slope, the scattered corrugations on its disc, and its peculiar color, are its best diagnostic marks. These are usually concealed by a thick coat of black earth. It is said to come from streams in the vicinity of chalybeate springs.

UNIO PROFUGUS. T. transversa, elongato-ovalis, ventricosa, epidermide fusco-castaneo, concentricè undato-striato, radiatim obsolete plicato induta; margine ventrali vix arcuato; margine dorsali sub-recto; latere antico rotundato; latere postico obliquè

truncato, ad apicem obtuso; umbonibus ante-medianis, elevatis, erosis; dentibus cardinalibus obliquis, elongatis, compressis; dentibus lateralibus remotis, sub-arcuatis: margarita livido-albida. Long.  $2\frac{3}{4}$ ; lat.  $\frac{7}{8}$ ; alt.  $1\frac{1}{2}$  poll. *Hab.* Hunter's River, N. S. Wales.

Slender varieties have much the appearance of the more expanded forms of *U. lutulentus*. It is more tumid, the beaks more elevated and more central, the hinge more curved, the cardinal tooth of the right valve more oblique and distinctly bifid, the lateral tooth of the left valve less extensively cleft, and I cannot find that it is ever nodular along the posterior slope.

UNIO VERECUNDUS. *T. tenuis, inequilateralis, transversa, ovato-oblonga, convexiuscula, luteo-olivacea; margine dorsali recto; margine ventrali arcuato; latere antico rotundato; latere postico obliquè rotundato; natibus prominulis, acutis, undulatis, erosis: cardo exilis; dentibus tenuibus longitudinalibus: margarita salmonaceo-purpurea.* Long.  $1\frac{3}{4}$ ; alt.  $1\frac{1}{8}$ ; lat.  $\frac{5}{8}$  poll. *Hab.* Manila.

Much like *U. Bengalensis* and *U. foliaceus*. In the former, both ends of the ventral margin are angular, the posterior side is dilated and angular at tip, and the interior is less bright red. The form of this is rather elliptical than ovate. *U. foliaceus* is smaller, thinner, compressed, and has a plumbaginous nacre.

UNIO DORSUOSUS. *T. transversa, retrorsum ampliata, inequilateralis, compressa, castanea; latere antico circulari; latere postico obliquè rotundato; margine dorsali recto; umbonibus pro-eminentibus, antrorsum concentricè costato-undulatis, retrorsum nodoso-fluctuatis: dente cardinali perobliquo, elongato, compresso; dente laterali recto: margarita ex albo-cærulescens, livido ad umbones tincta.* Long.  $1\frac{1}{2}$ ; alt.  $\frac{7}{8}$ ; lat.  $\frac{1}{2}$  poll. *Hab.* Eastern Asia?

Allied to *U. Murchisonianus*, Lea; it is more widened posteriorly, more compressed, not sinuate beneath, thinner.

AVICULA VIDUA. *T. parva, tenuis, dolabriformis, vix obliqua, per-inequilateralis, mutica, nitens, ex viridi purpurascens, deinde nigra, albo obscurè radiata: valva dextra planulata: valva sinistra convexa, ecaudata: auricula parva, triangularis; fissura parva, superficialis, edentata: margarita ex argenteo violacescens;*



limbo lato, nigro. Long.  $1\frac{1}{4}$ ; alt.  $\frac{3}{4}$ ; lat.  $\frac{3}{10}$  poll. *Hab.* Feejee Islands.

In the early stages the color is grass green, then passing through dark purple to coal black. It is remarkable for the perfect flatness of one valve. Its destitution of hinge teeth brings it in Lamarck's genus *Meleagrina*.

**AVICULA NIGRA.** Testa mutica, inequivalvis, ecaudata, edentula, fusca, antrorsum lobata; valva dextra convexiuscula, posticè integer, anticè profundè emarginata; auriculâ triangulari, crenulatâ: valva sinistra convexior, posticè profundè emarginata: margarita ex argenteo cœrulescens; limbo lato, fusco. Alt. 2; long.  $1\frac{3}{4}$ ; lat.  $\frac{1}{2}$  poll. Dredged at Singapore.

More like *A. margaritifera* in form than any other, but is less retuse, destitute of scales, and having its substance a plain purplish black. It belongs to the section *Meleagrina*.

**AVICULA MACULATA.** Testa solidula, ventricosa, per-inequilateralis, obliquè rotundata, ecaudata; margine caudali parum producto; extus calcarea, nigro radiata: auricula triangularis, crenulata; fissurâ profundâ: margarita pallidè aurea; limbo calcarea lato, vitreo, albo et nigro radiato: margo cardinalis latus, incrassatus; dente cardinali papilliformi; dente laterali brevi, posticè incrassato et deflecto, in valvâ dextrâ bifurcato; cicatrice musculari reniformi, profundo. Long.  $1\frac{3}{4}$ ; alt.  $1\frac{3}{4}$ ; lat.  $\frac{5}{8}$  poll. *Hab.* Tutuilla, Samoa Islands.

The peculiar magnesian external coating, radiated with dark purple, the golden nacre, and the porcelain-like marbled limbus, make this a strongly marked species.

**AVICULA FUCATA.** T. saccata, retrorsum obliqua, per-inequivalvis, scabra, rosaceo et flavido radiatim picta: auricula prægrandis, elongata; fissurâ byssali profundâ: valva dextra convexiuscula; angulo postico acuto: valva sinistra ventricosa, anticè integra, acutangularis, plicâ magnâ munita: cardo dentibus conspicuis: margarita argentea, violacescens; limbo corticali cretaceo, croceo et rosaceo radiato. Long. 2; alt.  $2\frac{1}{4}$ ; lat.  $\frac{7}{8}$ . *Hab.* Feejee Islands. ?

A small species, colored much like *A. margaritifera*; but the wing curves in the opposite direction, and it is provided with a

well-developed auricle, characters which could not be ascribed simply to immaturity.

*AVICULA LURIDA.* T. squamosa, vix obliqua, ferè ecaudata, solidula, coloribus rosaceis, viridibus et flavidis radiatim fucata: valva dextra posticè vix sinuata, convexa; auricula lata, triangularis; fissura byssica haud profunda: valva sinistra ventricosa, tuberculo magno subcaudali munita, posticè integra: margarita argentea; limbo corticali corneo et nigro marmorato. Long.  $2\frac{1}{2}$ ; alt.  $2\frac{1}{4}$ ; lat.  $\frac{3}{4}$  poll. *Hab.* New Zealand.

In form it resembles *A. fucata*; but its smoother surface, difference of coloration both without and within, and its much more elongated auricle, are quite distinctive. The young stages of this shell are exceedingly beautiful, being rose red, with a sort of superficial radiation of cream-color.

*AVICULA GLABRA.* T. tenuis, semi-elliptica, vix obliqua, latè caudata, glabra, ad peripheriam lamellata, virescens, albo-radiata: valva dextra planiuscula; auricula latior quam longa: valva sinistra ventricosa, anticè integra, acutangula: cardinis dentibus obsoletis: margarita argentea; limbo corticali livido-corneo. Long.  $2\frac{3}{4}$ ; alt.  $2\frac{3}{4}$ ; lat.  $\frac{7}{8}$  poll. *Hab.* New Zealand.

Outline much as in *A. fucata*, but the caudal region is much more compressed. Its smooth surface and widely different coloration are easily recognized. The white radiations are opaque, and have a superficial appearance.

*CRENATULA PERGAMINEA.* T. membranacea, obliquissima, subfalcata, concentricè laminoso-fibrosa, albida, lineis lacteis radiata; margine dorsali recto, umbonibus tumidis, acutis, ad trientem anteriorem sitis; latere antico arcuato et cum margine ventrali continuo; latere postico obliquè truncato; areâ cardinali angusta ad 5-crenata: intus sub-margaritacea. Long.  $1\frac{1}{4}$ ; alt.  $\frac{5}{8}$ ; lat.  $\frac{3}{8}$  poll. *Hab.* Feejee Islands.

None of the species already described agree with this in color texture, or form. Its structure is very delicate and unresisting, almost fibrous at its edge.

*PERNA ARGILLACEA.* T. solidula, mutica, compressa, elongata, anticè dilatata, posticè subrecta, ex luteo alutacea, hic illic nigricans; apice adunco: fissura byssali angusta, lanceolata: intus

*livescens* : area cardinalis curta, obliqua, triangularis, sulcis obliquis ad 8 arata : fovea apicalis profunda. Long.  $2\frac{1}{2}$  ; alt. 3 ; lat.  $\frac{3}{8}$  poll. *Hab.* ?

The resemblance to the common *P. ephippium* of the West Indies is very great. It differs chiefly in the clay-colored exterior, and in having the byssal instead of the opposite side dilated ; the muscular scar is also smaller.

**PERNA TORVA.** T. rudis, crassa, inequalvis, concentricè lamellata, cinerea, obliqua, trapezoidea ; latere byssali dilatato, semicirculari ; sinu byssali profundo ; apice adunco ; latere postico rectilineari, obliquo, producto ; margine cardinali obliquo : area cardinalis triangularis, sulcis obliquis ad sex arata : margarita ex argenteo-purpurascens ; limbo lato, retrò dilatato. Long.  $1\frac{1}{2}$  ; alt.  $1\frac{3}{4}$  ; lat.  $\frac{3}{8}$  poll. *Hab.* Sandwich Islands.

The obliquity of this species and the small number of its cardinal sulci are among its most prominent characters.

**PERNA EREMITA.** T. fragilis, exaluminata, variabilis, dolumbrata, vulsellata, unguiformis, pectiniformis et omnimodè distorta, plerumque radiatim rugoso-striata et in junioribus rufo-lineata ; antrorsum plus minusve arcuata : margarita argentea ; limbo corticali ampliato, foliaceo, stramineo, vitreo : margine cardinali ferè horizontali, 6—8 sulcato ; fissurà byssali profundà. Long. 2 ; alt.  $1\frac{1}{10}$  ; lat.  $\frac{3}{8}$  poll. Inhabits Carlshoff Island, Paumotu Group.

This shell, though so variable as to elude all terms of description, is still very distinct from all others, in all its forms. It seems to acquire its multiform shapes from the cavities in coral where it resides. Young or well protected specimens are sculptured by delicate radiating ramose ribs bearing minute scales.

**PERNA NANA.** T. parva, crassa, subquadrata, adunca, lamellosa, extus nigra ; margine ventrali sinuato ; angulo infero-posteriori rotundato ; latere postico sinuato : area cardinali lata, 6-sulcata ; fissura byssali ampla, trigonalis : margarita plumbaginea ; limbo corticali angusto, pallido. Long.  $\frac{2}{3}$  ; alt.  $\frac{3}{4}$  ; lat.  $\frac{1}{4}$  poll. *Hab.* Feejee Islands ; under stones. *Drayton.*

The solidity and color of this little species will not admit of its being confounded with any other species. It bears the marks of mature age.

**PINNA SENTICOSA.** *T. cuneata*, sub-inflata, posticè obliquè rotundata, purpureo-nigricans; margine dorsali sub-ascendente; margine ventrali propè apicem pendulo: area triangularis superior costulis ad 7 radiantibus squamigeris (squamis semi-tubulosis) instructa; area inferior striis incrementalibus solum notata. Long.  $4\frac{1}{2}$ ; alt.  $2\frac{1}{2}$ ; lat. 1 poll. *Hab.* New Zealand.

Its general appearance is that of *P. seminuda*; but it is smaller, much darker, the ventral margin is less arcuated, and the scales much less numerous and regular.

**MYTILUS (Modiola) FLABELLATUS.** *T. transversa*, elongata, trapezoidea, trifariam cuneata; umbonibus minimè terminalibus, acutis, attigentibus; declivitate umbonali ventricosus, angulatus; marginibus rectilinearibus; latere postico obliquè truncato, haud angulatus; epidermide anticè nitido, exusto, posticè flavo-viridi, flosculis rigido: intus exalbida. Long. 4; alt.  $1\frac{3}{4}$ ; lat.  $1\frac{1}{4}$  poll. *Hab.* Puget Sound, Oregon.

A very well marked species, more than usually cuneate, and with the beaks quite remote from the summit.

**MYTILUS (Modiola) AREOLATUS.** Testa transversa, ovato-elongata, incurvata, tumida; umbonibus approximatis, angulatis, ferè terminalibus; margine dorsali arcuato; margine ventrali fornicato, valdè hiantes; epidermide nitido, castaneo, portione anticonventrali sulco limitato: intus alba, limbo dorsali purpurascente. Long. 2; alt.  $1\frac{1}{4}$ ; lat. 1 poll. *Hab.* New Zealand.

Somewhat like *M. vulgaris*; the beaks are nearly terminal, the byssal opening broader and nearer the beaks, the ventral margin arching inwards instead of outwards at this point; the epidermis is darker and more shining, and the nacre is different.

**MYTILUS (Modiola) HEPATICUS.** *T. parva*, elongata, ovato-triangularis, anticè angustata, ventricosa; margine dorsali angulatus; umbonibus acutis, angulatis; epidermide tenui, livido-corneo, versus fastigium umbonalem flavescens; intus punicea, luteo-marginata. Long.  $1\frac{1}{4}$ ; alt.  $\frac{3}{4}$ ; lat.  $\frac{5}{8}$  poll. *Hab.* Feejee Islands.

A small, elongated species, with its dorsal edge obtusely angular, but best distinguished by its peculiar lurid exterior coloring, and its reddish molybdæna-colored interior.



**MYTILUS PYRIFORMIS.** T. solida, elongata, ovato-trigona, ventricosa, rosacea, epidermide piceo induta; margine ventrali inflecto, radiatim sulcato; fastigio umbonali tumido, concentricè undulato-striato: intus livescens; cardine edentulo. Long.  $3\frac{1}{2}$ ; alt.  $1\frac{3}{4}$ ; lat.  $1\frac{1}{2}$  poll. *Hab.* South Seas.

The similarity of the dorsal and ventral curves; its inflated ventral portion, its great lateral diameter, its peculiar coloration and striation are well marked.

**MYTILUS DIVARICATUS.** T. ovato-triangularis, arcuata, præter regionem byssicalem undique radiatim costato-sulcata, sulcis profundis, remotis, interdum divaricantibus; apice peracuto, angulato; margine dorsali haud angulato, portione ligamentali arcuato; margine ventrali recto; epidermide luteo-corneo posticè fusciscente; intus albida, posticè livescens. Long.  $1\frac{9}{10}$ ; alt.  $\frac{9}{10}$ ; lat.  $\frac{3}{4}$  poll. *Hab.* China Seas.

In general aspect it is like *M. Magellanicus*, but is more angular, the grooves are deeper, more numerous and more generally distributed. The grooves are disposed as in *M. hamatus*, but are much larger.

**MYTILUS ALGOSUS.** T. transversa, subcylindrica, elliptico-triangularis, valdè corrosa, epidermide tenui, intensè smaragdino induta; margine dorsali angulato, posticè ad marginem ventralem rectum parallelo; latere postico rotundato; fastigio umbonali tumido, obtuso; cardine edentulo: intus punicea. Long.  $1\frac{3}{4}$ ; lat.  $\frac{5}{8}$ ; alt.  $\frac{5}{8}$  poll. *Hab.* South Seas.

The slender cylindrical form, very dark green epidermis and interior coloration are good diagnostic characters.

**MYTILUS TROSSULUS.** T. parva, elongata, subarcuata, nitida, coracina, subtus cærulea; umbonibus remotis excurvatis, 5-denticulatis; marginibus sub-parallelis; margine ligamentali ascendente, recto, angulato; fastigio umbonali tumido, obtuso; intus cretato, limbo atro; cicatrice palleali lineari. Long.  $1\frac{1}{4}$ ; alt.  $1\frac{3}{8}$ ; lat.  $\frac{1}{2}$  poll. *Hab.* Killimook, Puget Sound, Oregon.

It is more slender and more cylindrical than *M. edulis*; the dorsal wing is less elevated, the posterior slope rectilinear; the color is more glossy jet-black and without radiations, and there is a difference in the form of the muscular impression.

**MYTILUS (Modiolarca) pusillus.** T. parva, transversa, sub-cylindrica, ovalis, solida, concentricè striata; marginibus sub-parallelis; latere antico truncato, angulo ventrali obtuso; latere postico latè rotundato; umbonibus tumidis, subterminalibus, contortis; colore cinereo, vel rubro-tincto. Long.  $\frac{1}{5}$ ; alt.  $\frac{1}{8}$  poll. *Hab.* Terra del Fuego.

This curious little shell is interesting from its being a representative from the southern seas of a form not uncommon in northern waters.

**PECTEN CAURINUS.** T. trigono-orbicularis, haud crassa, inequivalvis, sub-equilateralis; valva superior convexiuscula, rubra, striis concentricis tenuibus insculpta, costis humilibus rotundatis vel interdum sub-duplicatis ad 20 ornatis: valva inferior convexa, alba, versus marginem rubricans, radiis ad 22 elevatis, quadratis, longitrossum striatis; natibus rosaceis compressis; auribus transversis, sub-equalibus, radiatim striatis: intus lactea, rosaceo fimbriata. Long.  $2\frac{3}{4}$ ; lat.  $2\frac{1}{4}$ ; alt. 1 poll. *Hab.* Port Townsend, Admiralty Inlet, Oregon.

Of the size and aspect of *P. maximus* and *Magellanicus*. The lower valve has the ribs like *P. Jacobæus*, only they are not furrowed.

**PECTEN HERICIUS.** T. rotundato-triangularis, equilateralis, equivalvis; valvis convexis, sub-tumidis: valva superior rosea, lineis exilibus concentricis exasperata, et costis ad 24 angulatis, alternis majoribus et spinis erectis fornicatis insculpta: valva inferior pallidior colore saturatori zonata, costis sub-equalibus spiniferis armata; natibus acutis, prominentibus; auribus obliquis valdè inequalibus radiatim squamoso-striatis; intus porcellana; marginibus crenulatis, rosaceis. Long.  $4\frac{1}{2}$ ; alt.  $1\frac{1}{4}$ ; lat.  $4\frac{3}{4}$  poll. *Hab.* Straits of De Fuca, Oregon.

A very beautiful species, much like *P. pallium* beneath, but remarkable for the distant ranges of elevated spines on the alternate ribs, the intervening ones being quite depressed, and with merely fine squamous striæ, like the rest of the surface.

**PECTEN LÆTUS.** T. ovato-triangularis, ventricosa, equivalvis, dilutè rosea albo 5–6-radiata: margine ligamentali obliquo, auriculis valdè inequalibus, obliquis; auriculâ byssicâ profundè

fossato-emarginatâ, radiatim sulcato-costatâ, costis numerosis inequalibus argutè muriculatâ; intus albido-incarnata. Long.  $1\frac{1}{2}$ ; alt.  $\frac{3}{8}$ ; lat.  $1\frac{3}{4}$  poll. *Hab.* New Zealand.

Of the same type as *P. Islandicus*, but is small, more convex, and the sculpture coarser; the groove separating the auricle from the body of the shell is remarkably deep.

**OSTREA CIRCUMSUTA.** *T. solida, elongata, ovata, cinerea, inequivalvis, marginibus undulatis: valva superior denticulis radiantibus marginalibus in foveis sub-marginalibus valvæ inferioris aptantibus: area cardinalis triangularis, contorta, longitrorsum fossata: interior alba, limbo violacescente. Long.  $1\frac{1}{2}$ ; lat 1 poll. Hab.* Feejee and Samoa Islands.

The distinctive characters are the denticles, about twice as long as broad, around the entire margin, tinged with violet. In young specimens the purple coloring is wanting.

**OSTREA MORDAX.** *T. petrosa, angusta, lunata: valva inferior concava, digitis triangularibus erectis fusciscentibus marginata: valva superior minor, planulata, margine profundè sinuato et granulato, sinibus cum digitis coaptantibus: interior albida, olivaceo-maculata; cicatrice elongatâ, valdè incrassatâ, nigrâ: area cardinalis planulata, lata. Long. 2; lat. 1 poll. Hab.* Feejee Islands.

The horizontal digitations of the upper valve fitting into the erect canine teeth of the lower valve, together with the denticles within, and the black elevated cicatrix, may serve to identify this species. The upper valve fits so deeply and so closely into the lower that it is nearly impossible to separate them without fracture.

**OSTREA GLOMERATA.** *T. crescentica, lata, sinistrorsum arcuata, solidiuscula, planulata, scabriuscula, laminis dentatis propè marginem foliata, nigricans et albo-radiata; margine undulato: interior alba; foveâ apicali profundâ; cicatrice nigricante; marginibus aut simplicibus aut lineolatis et propè cardinem granulatâ; limbo corticali purpureo et viridi variegato. Long. et lat. 2 poll. Hab.* New Zealand.

This may possibly have been described, though no figure or description answers to the specimens I have seen. *O. spathulata* and *denticulata* correspond most nearly. The deep umbonal pit

of the lower valve, its dark frilled upper margin, and the few denticles near the hinge are among its peculiarities.

**OSTREA DISCOIDEA.** *T. subcircularis, planulata, tenuis, purpurea: valva superior striis crebris albidis radiata; valva inferior major, radiatim plicoso-rugosa; colore saturatiori: cavositas parva, argentata, purpureo-marginata; margine propè apicem plicoso-crenulato. Long.  $1\frac{1}{2}$ ; lat. 2 poll. Hab. —?*

The characters of the single specimen of this delicate and well-formed oyster are so diverse from all others, that notwithstanding the usual inconstancy of form in this genus, I think it may be safely pronounced new. The small, purple-striped West India Oyster (*O. Brasiliana*) is similar to it.

**TEREBRATULA CAURINA.** *T. parva, fusco-cinerea, transversa, convexiuscula; quincuncialiter punctata, costis angulatis ad 12 interdum bifurcatis radiata; margine ventrali circulari, flexuoso; apice acuto, rectangulari; lateribus rectilinearibus, incumbentibus; rostro bervi, vix curvato; foramine circulari, interrupto: apophysis branchialis tenuissima, angustata. Long.  $\frac{1}{2}$ ; lat.  $\frac{1}{2}\frac{1}{6}$ ; alt.  $\frac{1}{5}$  poll. Hab. Puget Sound.*

*T. australis* is closely allied, but is more elongated and more convex; the beak is also elongated and the ribs are less prominent.

**TEREBRATULA PATAGONICA.** *T. parva, solidula, albida, ovato-triangularis, sub-trilobata, quincuncialiter punctata: valva opercularis plana: valva major convexa, sub-gibbosa, costis tribus medianis et utrinque costis quinque divaricantibus ornata; rostro brevi, marginibus inflectis; foramine magno, rotundato: apophysis branchialis exilis. Long.  $\frac{1}{3}$ ; lat.  $\frac{1}{4}$ ; alt.  $\frac{1}{5}$  poll. Hab. Coast of Patagonia.*

A smaller and less transverse species than the preceding, and the disposition of the ribs is quite different. It is also closely related to *T. australis*, but differs from it in the same respects.

**TEREBRATULA PULVINATA.** *T. tenuis, lenticularis, orbiculato-trigona, albida, quincuncialiter punctata: valva minor convexa, latior quam longa, marginibus lateralibus rectis: valva major*



convexior, æquè longa ac lata; apice rectangulari, truncato, lateribus incumbentibus; foramine modico, circulari: apophysis branchialis tenuissima, reflexa, incumbens. Diam.  $\frac{5}{8}$ ; alt.  $\frac{1}{4}$  poll. *Hab.* Puget Sound, Oregon.

It has the same form and color and surface as *T. vitrea*, but is more rounded in front, the incurved areas of the beaks much broader and flatter, the ligament aperture larger, &c. Like other species of the genus, it varies much in form, some being quite globose, while others are compressed.

**MACTRA DEBILIS.** *T. parva*, alba, tenuis, transversa, elongato-ovata, anticè ovata, posticè acuta, valdè hians; valvis tumidis, posticè compressis; umbonibus eminentibus acutis, antemedianis: cardo debilis; dente V-formi parvo; dentibus lateralibus curtis, acutis. Long.  $1\frac{5}{8}$ ; alt. 1; lat.  $\frac{1}{2}$  poll. *Hab.* Singapore.

A very delicate species, resembling in all its outlines small specimens of *Mya arenaria*.

**BULLA PARALLELA.** *T. parva*, tenuis, cylindracea, lactea, anticè rotundata, posticè conica, imperforata, longitud. minutissime striata, ad verticem et ad basim striis undulatis decussata: apertura angusta, deorsum dilatata: columellâ callo haud appresso indutâ; labro ultra spiram adscendente, tunc deorsum intorto. Long.  $\frac{9}{10}$ ; lat.  $\frac{1}{5}$  poll. *Hab.* —?

Smaller and thinner than *B. solidula*, though striated at the ends like it, and having the same conformation of the lip. Its sides are parallel.

**TORNATELLA BULLATA.** *T. parva*, ovata, tenuis, albida, epidermide stramineo fugacissimo induta, spiraliter sulcata, sulcis linearibus ad 5 ordinatim dispositis in singulis anfractibus: spira prominula, turrata; anfr. 5 tabulatis, ultimo magno, ventricosus, 15-sulcato, supernis planulatis; sutura canaliculata: apertura semilunaris; columellâ uniplicatâ, planulatâ. Long.  $\frac{1}{4}$ ; lat.  $\frac{1}{6}$  poll. Dredged off Patagonia.

This little species like *T. puncto-striata* and *T. venusta*, to which it is allied, has not the ivory surface of most species. It is well characterized by its form and sculpture.

**HALIOTIS CRISPATA.** *T. parva*, tenuis, convexa, elongato-

ovalis, undulis obliquis angulatis divaricantibus rugata, spiraliter striata, rubida: spira elevata, submediana; foraminibus parvis, circularibus, confertis, ad septenis perviis, extrorsum canaliculatis; intus undulosa, nitida, argentea. Long.  $1\frac{2}{8}$ ; lat.  $\frac{7}{8}$  poll. With New Holland shells.

About the size and form of *H. stomatiæ-formis*, Rv., but distinguished by its crowded angular ripples, arranged somewhat like the colors on *H. ziczac*. No shell approaches it in this respect except the very young of *H. australis*.

SCALARIA GRACILENTA. T. minuta, gracilis, elongato-turrita, alba, costis longitudinalibus tenuibus ad 16 clathrata, spiraliter inter costas striata, imperforata: spira anfr. 9 cylindræis, contiguïs; suturâ profundâ: apertura circularis, ab anfractu penultimo haud sejuncta; labro continuo, reflexo, posticè et ad columellæ basim dilatato. Long.  $\frac{1}{4}$ ; lat.  $\frac{1}{16}$  poll. Hab. Mangsi Island.

One of the most delicate and slender species of the genus, resembling the figure of *S. gracilis*, Sowb., but agreeing still more in its characters with his *S. turricula*.

SCALARIA TEXTURATA. T. parva, tenuis, elongato-turrita, rubescens, sub-perforata: spira anfr. 8 rotundatis, ferè solutis, costis novem albidis elevatis reflexis supernè spinosis clathrata, et striolis inter costas confertissimè texturata: apertura circularis. Lat.  $\frac{1}{5}$ ; alt.  $\frac{1}{3}$  poll. Hab. — ?

A very pretty slender species, and well characterized by the numerous striæ between the ribs forming a delicate network. It is allied to *S. turricula*, Sowb., which has only revolving lines, is less conical, and the whorls are less rounded.

LITTORINA CINCTA. T. parva, rudis, conico-globosa, fuliginosa, interdum albido-zonata, costulis elevatis rotundatis ordinatis cincta, interspatiis excavatis et minutissimè decussatim striatis: spira conica, acuta; anfr. 5 ventricosus, ultimo ampullaceo; suturâ benè impressâ: apertura ampla, subcircularis; labro acuto fusco-marginato; columellâ albâ, planulatâ, ad basim expansâ. Axis  $\frac{5}{8}$ ; diam.  $\frac{1}{2}$  poll. Hab. Puget Sound.

More globular and proportionally shorter than any described species. Generally resembles *L. striata*, but is still less elon-

gated, less solid, and has the ribs larger and less numerous, and its color more dusky. It may be compared with *L. breviculus*.

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# SHELLS

OF THE

## NORTH PACIFIC EXPLORING EXPEDITION,

COMMANDERS RINGGOLD AND RODGERS;

MOSTLY COLLECTED

BY WILLIAM STIMPSON.

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**SUCCINEA LAUTA.** Testa magna, tenuis, plerumque *S. obliquæ* similis, sed posticè tumidior, ad apicem minus acuta. Long.  $\frac{8}{10}$ ; lat.  $\frac{5}{10}$  poll. On shrubbery at Hakodadi (Isl. Jesso).

A very large, thin shell, most like *S. obliqua*, Say. W. S.

**VITRINA IMPERATOR.** T. magnifica, fragilis, ventricosa, epidermide rigida fuscesciente induta, obsoletè spiraliter striata; anfr. 3+. Apertura ampla subcircularis, ad columellam vix incrassata. Axis  $\frac{3}{4}$ ; diam.  $1\frac{1}{2}$  poll.

Inhabits Hong Kong in ravines near summits of hills. W. S.

By far the largest species yet described; approximates closely to *H. ampulla*, Bens.

**HELIX LÆTA.** Testa tenuis, lucida, subglobosa, viridi-cornea, vittâ rufâ ad peripheriam et alterâ propè suturam ornata; anfr. 5 ventricosus, striis volventibus tenuissimis. Apertura magna, subcircularis, peristomate modico, everso, ad umbilicum magis reflexo.

Axis 1; diam.  $1\frac{1}{4}$  poll.

Inhabits Hakodadi on bushes and shrubs. W. S.

General outline not unlike *H. pomatia*.

**HELIX LABILIS.** T. parva, tenuis, nitida, succinea, depressa, lenticularis; ad peripheriam acuta; subtus convexa, polita, arcuè



umbilicata : anfr. 5 convexiusculis. Apertura transversa, angustè lunaris, columella verticalis. Axis  $\frac{1}{10}$ ; diam.  $\frac{1}{8}$  poll.

Inhabits Hakodadi, among dead leaves, in woods. W. S.

Very nearly allied to *H. misella*.

**HELIX PUPULA.** T. minuta, ovato-conica, levis, succinea, infra convexa, indentata; anfr. 6+ tabulatis, ad peripheriam obtusè angulatis. Apertura transversa, lunata; labro simplici, columellâ rectâ, reflexâ. Axis ad  $\frac{1}{5}$  poll.

Among dead leaves in woods, Hakodadi (Isl. Jesso). W. S.

Very much like our *chersina*, or the European *fulva*.

**HELIX PAUPER.** T. parva, discoidea, rufo-cornea, striis incrementi costulata, subtus calyculata; anfr.  $4\frac{1}{2}$  convexiusculis; suturâ profundâ. Apertura perobliqua, prona, rotundata; peristomate simplici. Diam.  $\frac{3}{10}$ ; axis  $\frac{1}{8}$  poll. On dead wood in thickets. Petropaulski, Kamtschatka, also Hakodadi (Isl. Jesso). W. S.

Allied to *H. rotundata* and *perspectiva*. Probably the same noted by Middendorff as *H. ruderata* of Europe.

**HELIX OPERCULINA.** Testa tenuis, depressissima, rufo-cornea; anfr. 5 concavo-convexis, ad peripheriam acutissimè carinatis, marginatis; subtus concava deinde convexa. Apertura angustissima, sigmoidea, peristomate vix reflexo. Axis  $\frac{1}{10}$ ; diam.  $\frac{3}{10}$  poll.

Inhabits Peel Isl. (Bonin Is.) Mr. Wright.

An exceedingly depressed species, looking much like the opercle of some *Trochus*.

**HELIX SQUARROSA.** Testa planorboidea, squarrosa, ochraceo-cornea, subtus pallidior, convexa, latè umbilicata; anfr. 6 convexiusculis, ad peripheriam subangulatis. Apertura parva, angusta, lunata; peristomate simplici, ad columellam reflexo.

Diam.  $\frac{6}{10}$ ; axis  $\frac{3}{10}$  poll. (probably immature.)

Ousima (Japan), among stones on hill sides. W. S.

Well distinguished by its large deep umbilicus, ochreous color, and rough, scaly surface. Allied to *Shanghaiensis*.

**NANINA PISOLINA.** Testa fragilis, vitrea, levis, mellita, orbicularis, subtus convexior, imperforata; anfr.  $3\frac{1}{2}$  depressis, ad peripheriam rotundatis. Apertura lunata, labro ubique simplici.

Diam.  $\frac{1}{4}$ ; axis  $\frac{1}{6}$  poll. Cape of Good Hope (?)

A small globular species unlike any one I have found described.

Sub-gen. CORILLA, H. & A. Adams (emendatus). Testa planorboidea, plerumque sinistrorsa, plus minusve distorta, arcuè spirata, subtus concava; fauce in fundo denticulis compressis ferè occluso, quorum uno saepe ad aperturam producto; peristomate incrassato, reflexo.

C. PULVINARIS. T. utrinque concava, cornea, striis incrementi conspicuis inculpta; anfr. ad 7 (subtus 5) ultimo demum deflecto. Apertura lunata admodum campanulata, peristomate flexuoso, satis reflexo; denticulis in fauce ad 9, haud productis.

Diam.  $\frac{3}{4}$ ; axis  $\frac{1}{2}$  poll.

Hong Kong, high up in the ravines; also near Canton. W. S.

Almost precisely of the size and shape of *H. refuga*, Gould, but that is reversed and has a lamina running to the aperture.

STREPTAXIS SINENSIS. Testa obliqua, polita, virescens, spira depressa, ovoidea, anfr. 7 acutis, sutura profunda minutè crenulata. Apertura obliqua, semi-ovalis, verticalis, lamellâ unicâ palatali munita; peristomate flexuoso, reflexo; columellâ rectâ; umbilico amplo. Axis  $\frac{2}{10}$ ; diam.  $\frac{1}{4}$  poll. Inhabits Hong Kong.

Differs from *S. Souleyetana* in its smaller size, smooth surface, flexuous lip, and more elongated aperture.

CLAUSILIA PRÆCLARA. Testa sinistrorsa, clavato-fusiformis ad apicem producta, dilutè carnea, liris conspicuis clathrata; anfr. 11 ultimo angustato, trientem long. testæ adequante. Apertura pyriformis, anticè sub-canaliculata; peritremate albo satis reflexo ad anfr. ultimum haud coadnato; laminâ palatali elevatâ, tenui, l. columellari conspicuâ, duplici, contortâ, lamellis 4 tenuibus ad interspatium, extus apparentibus. Axis 1; diam. max.  $\frac{1}{4}$  poll.

Inhabits Loochoo. W. S.

Allied to *valida*, *insignis*, &c., but most like *pluviatilis* on account of its aperture.

ALYCÆUS PILULA. Testa parva, ovato-conica, imperforata, rufescens, striis numerosis (sub lente) cineta; anfr. 4 rotundatis, ultimo constricto; suturâ profundâ. Apertura circularis, anfrac-

tum proximum vix attigens; fauce valdè contracto; peristomate modicè reflexo; fistulâ suturali exili valdè appressâ. Operculum corneum, arcuè spirale, apice centrali. Axis  $\frac{1}{4}$ ; diam.  $\frac{1}{5}$  poll.

Inhabits Hong Kong, China. W. S.

CYCLOTUS ILLOTUS. T. planorboidea, rudis, rubiginosa, subtus latè et profundè umbilicata; anfr. 4 rotundatis, suturâ simplici, impressâ. Apertura circularis, anfractum proximum laud amplectens; labro simplici. Diam. 3; axis 1 poll.

Inhabits Loochoo. W. S.

In form and general aspect greatly resembling *Cycl. suturalis*, Sowb., but is smaller, and has a simple suture.

CYCLOSTOMA BARBATA. T. parva, ovato-conica, rufo-cornea, liris numerosis volventibus et striis incrementi tenuibus lamellosis decussata, decussationibus barbam gerentibus; anfr. 5 rotundatis, suturâ canaliculatâ. Apertura posticè subangulata; peristomate simplici, vix expanso; umbilico modico, profundo.

Diameters  $\frac{1}{8}$  inch. Inhabits Ousima. W. S.

Two of the ridges on the outer whorl and one on the others are more conspicuous than the rest.

CYCLOSTOMA CITHARELLA. T. parva, subglobosa, tenuis, rufa, laminis incrementi tenuibus ornata, ad peripheriam propè aperturam biangulata, satis umbilicata. Apertura circularis, peristomate simplici anfractum proximum tantum attigente. Operculum subrotundum, paucspiratum, margine attenuato.

Diameters  $\frac{1}{8}$  inch. Inhabits Ousima.

Were it not for the operculum, it might be mistaken for *Helix harpa*, Say.

CYCLOSTOMA MUSIVA. T. ovato-conica, cornea, radiatim rufo-strigata, subtus ad peripheriam rufo-tessellata, modicè umbilicata, striis volventibus ad 5 arata, lineis incrementi conspicuis decussata; anfr. 5 rotundatis, suturâ canaliculatâ. Apertura rotundata, peristomate simplici. Axis  $\frac{1}{4}$ ; diam.  $\frac{1}{5}$  inch.

Inhabits —? (probably Japan).

The surface is conspicuously and beautifully relieved by the decussating lines.

The preceding three species form a peculiar group near to *Cyclostoma* proper, characterized by the thin paucispiral opercle with thin edges, the globose conic form, free umbilicus, nearly circular peristome which barely touches the preceding whorl, and the projecting lamellar striæ of growth decussating with revolving ridges, in some cases furnished with epidermal barbs. It may be called JAPONIA.

HELICINA VERECUNDA. *T. pyramidato-lenticularis*, spiraliter minutissimè striata, luteo-virens ad apicem rubescens, ad peripheriam subangulata, subtus convexa, admodum callosa; anfr. 4 planulatis. Apertura ovata-triangularis; peristomate evaso, albedo, ad columellam rectam angulariter juncto.

Axis  $\frac{1}{5}$ ; diam.  $\frac{1}{4}$  inch. Inhabits Loo Choo.

Belongs to the group of which *H. striatula* is a type.

SUCCINEA LYRATA. *T. ovata*, solidula, luteo-virens, undatellis flexuosis lyrata; anfr. tribus ventricosis, apice obtuso. Apertura ovata, columellâ vix flexuosâ callo perexiguo indutâ. Axis  $\frac{1}{5}$ ; diam.  $\frac{1}{4}$  poll.

Near the sea-shore, Loo Choo. W. S.

A small ovate species, quite remarkable for its lyrate surface.

AURICULA (Leuconia, Gray) OPPORTUNA. *T. parva*, ellipsoidea, solida, livido-albida, lævis; anfr. 6 ad suturam imbricato-appressis. Apertura falcata, posticè acutissima, anticè rotundata; labio lamellâ compressâ elevatâ medianâ et lamellâ duplici anticali obliquâ instructo; labro simplici. Long. 8 millim.; diam. 4 millim.

Inhabits Loo Choo Is. W. S.

OMPHALOTROPIS STRICTUS. *T. elongata*, ovato-conica, solidula, lævis, arcetè umbilicata; anfr. 6 rotundatis ad suturam tabulatis. Apertura ovata, peritremate simplici continuo, sed posticè ad ventrem retracto; umbilico carinâ inconspicuâ approximâtâ cincto. Axis  $\frac{1}{5}$ ; diam.  $\frac{1}{8}$  poll.

On old stone walls, Loo Choo. W. S.

One of the smallest species yet described, with a very small perforation, and a faint keel around it at a very short distance.

LIMNÆA OLLULA. *T. parva*, tenuis, ovata, viridi-cornea, impolita; anfr. 4+, ultimo ventricosus. Apertura rotundato-ovata;

columellâ simplici, posticè callo lato indutâ. Axis  $\frac{1}{4}$ ; diam.  $\frac{1}{5}$  poll.

Streams and marshes on Hong Kong Island. (Wright.)

Very much like a small *L. modicella*.

ANCYLUS GAULUS. T. obliquè pyramidata, apice ad quadrantem posteriorem longitudinis, dextrorsum inclinato, obtuso; epidermide luteo-corneâ, supernè fuseâ. Apertura rotundato-ovata, intus plumbea. Long.  $\frac{1}{5}$ ; lat.  $\frac{1}{8}$ ; alt.  $\frac{1}{10}$  poll.

Inhabits Cape of Good Hope. W. S.

A solid, well rounded species, without any salient characters.

PLANORBIS SPIRILLUS. T. parva, discoidea, utrinque concava, tenuis viridi-cornea, plerumque liris ad quatuor propè aperturam instructa; anfr. 3+ utrinque apparentibus, suturâ impressâ. Apertura ampla, perobliqua, lata, lunata. Diam.  $\frac{1}{8}$ ; alt.  $\frac{1}{20}$  poll.

Inhabits Ousima. W. S.

Very like to *P. albus* and *deflectus*; perhaps the same that Middendorff refers to under the former name, as from Kamtschatka.

SEGMENTINA LUCIDA. T. parva, tenuis, orbicularis, dilutè cornea, radiatim viridi-lineata, supra fornicata, infra poculiformis, vix perforata; anfr. 4, ultimo lato, declivi; suturâ impressâ. Apertura ampla, posticè acuta, anticè rotundata; fauce denticulis armatâ. Alt.  $\frac{1}{10}$ ; lat.  $\frac{1}{4}$  poll.

Inhabits Loo Choo. W. S.

Smaller and more elevated than the following, with quite a different surface and color.

SEGMENTINA USTA. T. depressa, orbicularis, concavo-convexa, nitida, umbrina, latè umbilicata; anfr. 6, apicalibus arcuissimis, excavatis, ultimo amplo, declivi; suturâ canaliculatâ. Apertura perobliqua, angustè lunata; fauce in fundo quadridentatâ. Alt.  $\frac{1}{10}$ ; diam.  $\frac{6}{10}$  poll.

Inhabits Loo Choo Islands. W. S.

Resembles in color *S. Largillierii*, which is larger, less polished, more largely umbilicated.

PALUDINA HISTRICA. T. ovato-conica, variabilis, tenuis, striatula, rufo-cornea; anfr. 6 ventricosis, posticè tabulatis, ultimo ad peripheriam subangulato, albido; suturâ profundâ. Apertura



rotundato-ovata, subeffusa; peristomate simplici, nigrescente, umbilicum parvum subtegente. Dimens.  $1 \times \frac{3}{4}$  poll.;  $1\frac{1}{4} \times \frac{7}{10}$  poll. etc.

Ditches in paddy-fields, Ousima and Loo Choo. W. S.

**BITHYNIA DIVALIS.** T. minuta, imperforata, ovato-conica, solidula, lævis, olivacea; anfr. 3+ ventricosis, ultimo permagno. Apertura parva, ovata, verticalis; peritremate continuo ad columnellam flexuoso. Axis  $\frac{2}{10}$ ; diam.  $\frac{3}{20}$  poll.

Inhabits China, vicinity of Canton. Mr. Bowring.

The genus is somewhat equivocal. It has an operculum more like that of a true Paludina than of any other genus.

**ASSIMINEA DEBILIS.** T. globoso-conica, solidula, luteo-cornea, arcetè umbilicata; anfr. 5 tabulatis, ultimo ad peripheriam subangulato. Apertura rotundato-ovata, peritremate continuo, vix incrassato. Alt.  $\frac{7}{40}$ ; diam.  $\frac{5}{40}$  poll.

Loo Choo Is. W. S.

Paler and less solid than any other described species; more elongated than the following, and differing in color.

**ASSIMINEA RUBIDA.** T. ovato-conica, solida, impolita, straminea aurantiaco tineta, perforata; anfr. 6 rotundatis, suturâ profundâ. Apertura parvula, pyriformis, peritremate continuo. Alt.  $\frac{7}{40}$ ; diam.  $\frac{3}{20}$  poll.

Inhabits Loo Choo, on beaches. W. S.

Rather smaller than the preceding, and distinguished by its color and solidity.

**MELANIA LIBERTINA.** T. elongata, turrita, truncata, luteo-cornea, hic illic fuscata, lineis volventibus anticè insculpta; anfr. 5+ convexiusculis. Apertura elongata tortuosa, labro albo posticè sinuato, anticè in canalem obtusam producto; fauce lividâ. Long.  $1\frac{1}{4}$ ; lat.  $\frac{1}{2}$  poll.

Simoda and Ousima, in sluggish streams and ditches. W. S.

Generally resembles *M. Virginica* and *indefinita*, Lea, which has a more lax and elongated spire. The grooving varies, and in some specimens is nearly wanting.

**MELANIA GRACILINA.** T. subulata, truncata, imperforata, tenuis, lævis, olivacea, sulcis acutis remotis cincta; anfr. 7+

convexiusculis, posticis attenuatis. ad suturam maculis fuscis sæpè ornatis. Apertura angustè ovalis, vix effusa; fauce lividâ. Long. 1; lat.  $\frac{1}{3}$  poll.

Inhabits Taheiti, common in streams.

Belongs to the peculiar subulate group of Polynesia; peculiar by its grooves and the dots near the suture.

MELANIA DOLOROSA. T. elongata, solida, lævis vel striis raris cineta, picea; anfr. 6+ rotundatis, ultimo bulboso. Apertura ovato-rotundata, vix producta; columella arcuata, lactea; fauce cæruleâ. Long.  $\frac{3}{4}$ ; lat.  $\frac{1}{4}$  poll.

In streams near Hakodadi. Wright.

Principally noticeable for its sombre appearance, usually incrustated by a rusty, felt-like coating, so as to obscure its true surface.

NERITELLA PUELLA. T. parva, obliquè ovata ad ventrem planulata, lævis, viridescens, lineis angulatis fuscis et interdum fasciis articulatis ornata; anfr. 3, ultimo amplo. Apertura parva, labro producto, columellâ callo copioso indutâ, minutissimè denticulatâ. Lat. max. 7, min. 5 millim.

Inhabits Loo Choo. W. S.

Nearly of the shape and size of *N. viridis*, the spire being less prominent, and the aperture smaller.

NERITELLA (Clithon) PENICILLATA. T. ovato-globosa, obliqua, lævis, viridis lineolis luteis undulatis obliquis ubique ornata; anfr. 3+ ad trientem posteriorem angulo instructis spinas tenues tubulosas ad sex armato. Apertura ampla, labro producto acuto, labio simplici, lutescente; fauce cærulescente. Axis  $\frac{6}{10}$ ; diam.  $\frac{1}{2}$  poll.

Inhabits New Ireland. Lieut. Van Wycke.

Distinguished from most spinous species by its smooth surface, and from all by its delicate lineations.

NERITA PICA. T. parva, tenuis, obliquè ovato-globosa, rudis anthracina maculis parvis multififormibus albis ornata. Spira haud elevata. Apertura semicircularis, labro simplici nigro marginata; columellâ excavatâ, nitidâ, flavescente, edentatâ. Operculum virescens, granulatum. Axis  $\frac{4}{10}$ ; diam.  $\frac{1}{2}$  poll.

Inhabits Simoda, very common on rocks.

A small, prettily marked species, remarkable for its destitution of grooves, granules, folds, and denticles.

**NATICA SEVERA.** T. ovato-globosa, solida, impolita, rufo-cinerea; anfr. 4 ventricosis posticè quadratis, apice fusco. Apertura ovata, labro posticè tenui, anticè sensim incrassato, ad columellam rotundato; umbilico magno, clavo ferè impleto. Axis  $1\frac{6}{10}$ ; diam  $1\frac{3}{10}$  poll.

Inhabits Hakodadi Bay. W. S.

From its form and exterior it might be taken for *N. heros*, but it has a very different umbilicus, resembling *N. unifasciata*.

**NATICA RUSSA.** T. imperforata, ovato-globosa, tenuis, laevis, epidermide tenui cerinâ induta; anfr. 4 ventricosis posticè quadratis. Apertura ovata, subeffusa, labro tenui, umbilico callo compresso albo obstructo. Operculum osseum. Axis 18 millim.; diam. 16 millim.

Arctic Ocean. W. S.

Like *N. clausa*, but larger, the whorls more broadly shouldered, the umbilical region more concave and more perfectly closed by callus than in any shell of that species I have seen.

**NATICA PUERILIS.** T. parva, ovata, solida, polita, epidermide tenuissima straminea induta; anfr. 4 tribus apicalibus parvis eburnatis; suturâ obscurâ; facie ventrali planulatâ umbilico semicirculari perforatâ plerumque callo impleto. Apertura semiovalis, posticè rotundata; labro acuto. Operculum corneum rubidum. Axis  $\frac{1}{2}$ ; diam.  $\frac{3}{8}$  poll.

Inhabits Porto Praya. W. S.

Resembles *N. glabella* and *N. nitida*. It is, however, more elongated, and less flattened on the face.

**GENA DILECTA.** T. parva, tenuis, elongato-ovalis, nitida, luteo-virens maculis albis trigonis nigro apicatis interdum serialibus ornata, striis incrementi et striis spiralibus profundioribus decussata; anfr. 3, apice ferè terminali. Apertura angusta, ovalis faciem ventralem ferè adequans; intus nitidè virescens. Long. 8 millim.; lat. 4 millim.

Inhabits Hakodadi Bay, on shells, &c. W. S.

Very delicate and slender, allied to *G. planulata*, a much

larger species, and *G. strigosa*, of which it may possibly be the young.

**VANICORO SCALARINA.** *T. ovato-globosa*, tenuis, alba, costis remotis elevatis imbricantibus lyrata et filis volventibus decussata; anfr. 4 ventricosi benè discretis. Apertura ampla rotundato-ovata anfractum penultimum vix attingens, labro effuso, labio recto retracto; umbilico amplo infundibuliformi costâ marginato. Long. 10 millim.; lat. 8 millim.

Found at Loo Choo. W. S.

Like *V. Gueriniiana*, but differs in its sharper compressed ribs, which stop short at the umbilical ridge.

**FOSSARUS TORNATILIS.** *T. solida*, ovato-globosa, cinerea; anfr. 3, ultimo magno ventricosus costis elevatis recumbentibus alternatim sæpè minoribus ad 12 cineto (alteris tricinctis) et lineis conspicuis incrementi clathrato; suturâ canaliculatâ. Apertura semicircularis ferè sejuncta; umbilico elongato, plicato. Axis 5 millim.; diam. 4 millim.

Hong Kong harbor, 10 faths. W. S.

Much like *F. costatus*. Without the animal or operculum it is impossible to say that this shell does not belong to the genus Vanicoro.

**PAXILLUS TANTILLUS.** *T. minuta*, cornea, pupæformis, inornata; anfr. 6 ventricosi. Apertura circularis, labio semicirculari, incrassato, ventre callo expanso copioso induto; canali antico obliquo curto. Axis 1.25; diam. .75 millim. Inhabits Hong Kong. W. S.

**PAXILLUS LYRATUS.** *T. parva*, pupæformis, gibbosa, flavido-virens, apice lævi, alibi laminis erectis longitudinalibus lyrata; anfr. 7 ventricosi, penultimo ampliore; suturâ profundâ. Apertura subcircularis, anticè acuta, ventre callo copioso firmato; labro duplici, lateraliter viso flexuoso. Axis 3 mill.; diam. 1.5 millim. Inhabits Loo Choo Islands. W. S.

**LITTORINA VIDUA.** *T. parva*, ovato-conica, intensè olivacea et omnino flavido concinnè tessellata, striis transversis insculpta; anfr. 5 ventricosi declivibus. Apertura pyriformis, columellâ incarnatâ; labro intus lineato. Axis 7 millim.; diam. 4 millim.

Inhabits Ousima. Very regular in form, and the reticulations are only seen on close inspection.

**BULLA VERNICOSA.** T. ovato-globosa, solida, lævigata, latè perforata, cinereo cum rufo variegata et fasciis 4 macularum fuscarum interdum angulatarum cincta. Apertura angusta, labro recto vix inflecto rufo marginato; fauce porcellana. Axis 1.3 poll.; diam. .8 poll. Inhabits Loo Choo Islands. W. S.

Very shining, less inflated and narrower aperture than *B. ampulla*; more globose and more polished than *B. australis*.

**ATYS MUSCARIA.** T. minuta, ovato-elliptica, tenuis, virescens, punctis fuscis transversim dispositis ornata, striis utrinque insculpta; vertice infundibuliformi imperforato. Apertura angusta, anticè effusa; labro retrorsum producto, dentigero; columellâ brevi, tortâ. Axis 4 millim.; diam. 2 millim.

Inhabits China Seas. W. S.

**ATYS PORCELLANA.** T. parva, tenuis, ovato-cylindracea, lactea, striis transversis remotis utroque crescentibus arata; apice vorticiformi imperforato. Apertura angusta antrorsum amplians, basi subtruncate; columellâ profundè arcuatâ callo valdè munitâ subperforatâ. Axis 12; diam. 5 millim.

Inhabits Kagosima Bay. W. S.

**HAMINEA ANGUSTA.** T. parva, tenuis, ovato-cylindracea antrorsum ampliata, obtusè rotundata, flavo-virens, striis transversis insculpta; vertice obliquè truncato subperforato. Apertura antrorsum ampliata; columellâ haud excavatâ, plicâ et callo carente. Axis 6; diam. 4 millim. Inhabits Simoda. W. S.

Resembles in size and form *H. ambigua*.

**PHILINE VITREA.** T. modica, fragilis, vitrea, pellucida, iridescens, rotundato-ovata, depressa, undulis concentricis sinuatis notata; apice opaco vix indentato anfractum unicum exhibente. Apertura amplissima; labro posticè rotundato; columellâ acutâ absque plicâ, interiorem testæ patefaciente. Axis 10; diam. 8; alt. 3 millim. Dredged at Hong Kong. W. S.

**PHILINE ARGENTATA.** T. ovato-quadrata, compressa, tenuissima, lucida, talcosa, concentricè undulata et lineis transversis argentatis insculpta; apice indentato calloso, labro posticè latè



exstante, anticè subtruncato; plicâ columellari obviâ. Axis 6 mill.; diam. 5 millim. Inhabits Hakodadi Bay, in sandy mud, 2-6 fathoms. W. S.

Very much like *P. scutulum*, Lovèn, except in its sculpture. Distinguished from *P. vitrea* by its off-standing lip and silvery grooves.

**TORNATINA APICINA.** T. minuta, cylindræa, elongata, alba, lineis incrementi tenuissimis insculpta; apice mammillatâ; anfr. 4, suturâ canaliculatâ. Apertura  $\frac{3}{4}$  long. testæ, perangusta; plicâ columellari obsoletâ; labro lateraliter viso arcuato. Axis 5 millim.; diam. 2 millim. Inhabits Sydney Harbor. W. S.

The aperture is broader and the pillar fold less definite than in *T. fusiformis*.

**CYLICHNA VILICA.** T. minuta, ovato-cylindræa utroque subconica, albo et ferrugineo cincta, lineis volventibus insculpta et posticè concinnè plicata; vertice latè perforato. Apertura angusta, labro vix apicem excedente; columellâ subperforatâ, plicâ obsoletâ. Axis 3; diam. 1.5 millim. China Seas. W. S.

**CYLICHNA ELLIPSOIDEA.** T. minuta, solida, elongato-elliptica eburnea, transversim striatula; apice involuto latè umbilicato; labro apicem vix excedente, latè arcuato. Apertura perangusta, anticè acuta; columellâ brevi, validâ, plicâ modicâ; ventre callo copioso induto. Axis 3 millim.; diam. 1+ millim. Inhabits Loo Choo. W. S.

**CYLICHNA REGULARIS.** T. satis magna, elliptica, elongata, alba, spiraliter insculpta, vertice obtuso latè perforato. Apertura perangusta, admodum anticè ampliata; columellâ incrassatâ, vix incurvatâ, imperforatâ; ventre calloso. Axis 9 millim.; diam. 4 millim. From Sydney harbor. W. S.

**CYLICHNA OPEROSA.** T. minuta, gracilis, cylindræa, virescens, polita, vel ad basim minutissimè circumstriata; vertice obtuso, amplissimè umbilicato. Apertura angusta, linearis; plicâ columellari conspicuâ, haud perforatâ. Axis 4 millim.; diam. 1 millim. From Hong Kong harbor. W. S.

**CYLICHNA LETA.** T. parva, ovata, elongata, lactea, nitida, transversim (sub lente) striata; vertice plerumque perforato.

Apertura antrorsum ampliata; labro vix posticè producto; columellâ profundè incurvatâ, imperforatâ; plicâ satis conspicuâ. Axis 5 millim.; diam. 2 millim.

Inhabits Kagosima. W. S. A somewhat tumid, very symmetrical species.

CYLICHNA PROTRACTA. T. satis magna, solida, cylindræa, ossea, spiraliter insculpta; apice obliquè truncato carinato crateriformi perforato. Apertura angusta; labro recto posticè angulato; columellâ curtâ, solidâ, valdè plicatâ. Axis 12 millim.; diam. 5 millim. Coast of China. W. S.

CYLICHNA TUBULOSA. T. modica, elongata, cylindræa, deorsum sensim ampliata, albida, lævis vel potius (sub lente) lineis volventibus insculpta; vertice obliquè truncato crateriformi imperforato. Apertura perangusta, linearis; plicâ columellari conspicuâ. Axis 8 millim.; diam. vix 3 millim. Simon's Bay, Cape of Good Hope. W. S. Allied to *C. involuta*, A. Ad. but the outlines are more rectilinear.

CYLICHNA MELAMPOIDES. T. minima, solida, ovata, eburnea, polita, anticè striis cineta; vertice obtuso, impresso, imperforato; basi acutè rotundato. Apertura antrorsum dilatata; labro vix reducto; columellâ curtâ, imperforatâ. Axis 4 millim.; diam. 2 millim. From China Seas. W. S.

CYLICHNA CONSOBRINA. T. cylindræa, abbreviata, anticè angustata, posticè truncata, solidula, albida epidermide fugacissimo induta, transversim striatula; vertice indentato, angulato. Apertura angusta, recta, labro ad apicem planulato; columellâ abbreviatâ, tortâ. Axis 6 millim.; diam. 2+ millim. Taken on the west coast of Jesso. L. M. Squires. Size and general form of *C. triticea*, but less rounded at extremities and pillar fold less obvious. *C. corticata*, Müll. is nearly the same.

ACTÆON SECALE. T. parva, elongato-ovata, tenuis, straminea, posticè polita vel lineâ subsuturali insculpta, anticè striis punctatis cineta; anfr. 4 tabulatis ultimo  $\frac{3}{4}$  long. testæ; apice obtuso. Apertura  $\frac{1}{2}$  long. testæ vix superans, auriculata, posticè acuta, anticè benè rotundata; columellâ conspicuè tortâ. Axis 4 millim.; diam. 2 millim. From the China Seas. W. S.

**BUCCINULUS STRIGOSUS.** T. ellipsoidea, elongata, solidula, sulcis volventibus punctatis arata, interspatiis fusco et albido catenatis, et fasciâ albidâ medianâ, suturali et anticali ornatâ; anfr. 5, ultimo  $\frac{3}{4}$  long. testæ adæquante. Apertura  $\frac{2}{3}$  long. testæ, perangusta; columellâ profundè excavatâ. Axis 8 millim; diam. 3 millim. Inhabits Loo Choo and Kagosima. W. S.

Remarkable for its small size and slender form. Some specimens are much shorter than others and nearly without the slaty lines; so that the species appears to be quite variable.

**LIOTIA SOLIDULA.** T. ovato-conica, depressa, solida, albida, modicè umbilicata ad 12-plicata, lirâ ad peripheriam, alterâ sub-suturali, alterâ basali foveata; umbilico dentato; anfractibus quinque. Apertura verticalis; columellâ tenui, profundè abdîtâ; labro crasso simplici. Axis 5 millim.; diam. 8 millim. Dredged in 25 fathoms off the coast of China. W. S. Allied to *L. Peronii* and *L. cidaris*, but differing in the umbilicus.

**LIOTIA LOCULOSA.** T. parva discoidea, solida, cinerea; anfr. 4 citò crescentibus, benè discretis, ultimo ad peripheriam biangulato, costis ad angulos tubuloso-nodosis lyrato; suturâ crenulatâ; umbilico amplo, profundo, crenulato. Apertura circularis; labro reflexo quadricristato. Axis 2 millim.; diam. 5 millim. Inhabits Loo Choo. W. S.

**LIOTIA FULGENS.** T. parva, discoidea, aureo-margaritacea, laminâ calcareâ ochraceâ incrustata; anfr. 3+ citò crescentibus, ultimo ad peripheriam carinis binis acutis rufo-tessellatis cineto, interspatio concavo; subtus crateriformis. Apertura ampla circularis inferior; labro expanso, lobulato. Axis 2 millim.; diam. 5 millim.

Inhabits St. Simon's Bay, Cape of Good Hope. W. S. Very like *Delphinula bicarinata*, Ad. and Rv., which has a more elevated spire and unequal keels.

**LIOTIA ASTERISCUS.** T. minutissima, solida, alba, conica, costis elevatis acutis obliquis ad 20 sulco subsuturali sulco utroque ad peripheriam et sulco umbilicum ambiente aratis; anfr. 4 convexis. Apertura circularis; peristomate crasso duplici radiante; fauce margaritaceâ. Diam. 1.5 millim.; axis 1 millim.

Inhabits Hong Kong. W. S. Very minute, but evidently adult and perfectly well characterized.

CYCLOSTREMA MODESTUM. T. parva, discoidea, solidula, lactea, supra convexiuscula, infra leniter concava, perforata; anfr. 4 sulcis volventibus clathratis cinctis quorum subsuturali majori. Apertura circularis; labro crenulato. Diam. 4 millim.; axis 2 millim. Inhabits Hong Kong. W. S.

PATELLA GRATA. T. ovato-conica, elevata, apice acuto admodum antico, extus rudis, cinerea, costis elevatis compressis juxta marginem tubulosis radiata; margine expanso denticulato; intus ochracea fusco variegata, spatulâ et submargine intense castaneis. Long. 30 millim.; lat. 24 millim.; alt. 14 millim. From the north shores of Nippon. Mr. Brooke.

PATELLA PALLIDA. T. obliquè pyramidata, cinerea, rudis, apice parum antico, costis inequalibus rotundatis variè dispositis ad 20 instructa; apertura rotundato-ovata, margine indentato, submargine cinereo, cavositate porcellano, spatulâ haud coloratâ. Long. 40, lat. 33, alt. 30 millim. Inhabits Hakodadi Bay, on stones and gravel, 10 fathoms. W. S.

ACMÆA DORSUOSA. T. ovoidea, rudis, costis inequalibus angustis humilibus tuberculatis ad 20 instructa; apice antico, acuto decurvato; intus virescens, spatulâ (centro plerumque excepto) castaneâ, margine ferè integro ad costas castaneo. Long. 20, lat. 15, alt. 10 millim.

Habitat, Hakodadi on rocks of 2d and 3d laminarian zone. W. S. Closely allied to *A. patina*, or that variety of it named *monticula* by Nuttall. The apex is more central, ribs more tubercular and less angular.

SCUTELLINA UNGUIFORMIS. T. parvula, alba, lucida, rotundato-elliptica, depressè fornicata, apice minuto deflecto, paginâ externâ striis concentricis et radiantibus minutissimis decussatâ versus apicem gemmulatâ. Long. 6, lat. 5, alt. 1 millim. Hab. Kagosima. W. S.

SCUTELLINA SCOBINATA. T. parva, cinnamomea, rotundato-ovata, admodum elevata fornicata, apice terminali, deflecto; extus undulis concentricis et striis confertissimis radiantibus ornata et

granalis elongatis obliquis inordinatis scobinata; intus subnaerea. Long. 8, lat. 7, alt. 4 millim. Hab. Ousima. W. S.

EMARGINULA PILEATA. T. minuta, straminea, oblique ovato-conica, costis granulosis numerosis radiantibus ornata; apice anticali, obtuso; apertura ovato-rotundata; margine crenulato; fissura profunda retrorsum in canalem externum clathratum protracta. Long. 5, lat. et alt. 4 millim. Hab. Loo Choo. W. S.

EMARGINULA (Clypidina) ALTILIS. T. parva, oblique conica, elevata, sulcis confertis radiantibus et liris tenuibus concentricis inculpta apice obtuso, recurvo; apertura ovalis; margine crenulato; fissura profunda retrorsum in canalem externum reducta. Long. 5, lat. 4, alt. 4 millim. Hab. Kagosima Bay, 10 fathoms, gravelly. W. S.

More simply and finely striate than any other species.

E. (Clypidina) RADIATA. T. cinerea, elliptica, costis radiantibus imbricatis ad 17 et costulis intermedianis ad 3 ornata, propè apicem acutum deflectum submedianum clathrata; intus viridi radiata, margine denticulato; fissura curta in canalem internum versus apicem producta. Long. 12, lat. 8, alt. 7 millim. Inhabits Sydney Harbor. W. S.

E. (Clypidina) TEXTILIS. T. parvula, tenuis, fusco et cinereo variegata, ovato-rotundata, costulis concinnè imbricatis (tertio vel quarto plerumque majore) radiata; apice subcentrali acuto; intus viridi vel zonata vel radiata, margine crenulato; fissura satis profunda posticè in canalem internum ad apicem producta. Long. 9, lat. 7, alt. 4 millim. Hab. Ousima, on surf-washed rocks. W. S.

RIMULA ECHINATA. T. parva, ovalis, costata, costis inequalibus echinatis, interstitiis simplicibus (?), apice acuto revoluto; foramine oblongo anticè rotundato, posticè in canalem clathratum reducto; margine indentato. Long. 9, lat. 7, alt. 4 millim. Hab.: Gaspé Straits.

An imperfect description from the figure of a shell unfortunately lost or missing. It seems different from the three recent species already described, but possibly may be *R. propinqua* A. Ad.

CHITON (Lophyrus) LUGUBRIS. T. parva, solida, punctata



elongato-ovata, vix carinata, smaragdina; areâ centrali liris longitud. pectinatâ ad apicem lævi; areis lateral. elevatis, liris ramosis nodulosis instructis; valvis terminalibus magnis propè marginem radiatis, umbone subcentrali; ligamentum latum, squamis magnis transversis convexis obtectum. Long. 25, lat. 15 millim. Hab.

C. (Leptochiton) **COMPTUS**. T. parvula, tenuis, elliptica, aut viridis aut incarnata sæpè albido vel flavo variè fasciata punctata vel maculata; valvis brevibus, terminalibus radiatim costatis etiam punctatis, areâ centrali quincuncialiter punctatâ; areis lateralibus elevatis et sulcis radiantibus 4-5 insculptis; intus viridans; ligamentum angustum squamis parvis elongatis sulcatis imbricatum. Long. 15, lat. 10 millim. Hab. Ousima, Bonin and Loo Choo Is. W. S.

In form like *squamulosus* and *rugulatus*, but sculptured differently; possibly *C. caliginosus* Rv.

C. (Leptochiton) **JACOBÆUS**. T. parvula, cinerea, elongata, elliptica vix carinata; valvis terminalibus permagnis, fornicatis, costis scabris radiantibus ad 10 ornatis; areâ centrali cancellatâ; areis lateral. conspicuis, bicostatis; ligamentum angustum, squamis minutis elongatis obtectum. Long. 12, lat. 5 millim. Hab. Simoda. W. S.

The vaulting and ribs of the two large terminal valves make them resemble two small Pectens.

C. (Leptochiton) **CONCINNUS**. T. minuta, rubida, elliptica, fornicata, omninò punctata, punctis seriatim dispositis, seriebus radiatim flectantibus; areis lateralibus haud elevatis, longitud. undulatis; valva antica crescentica; v. postica acutè umbonata concentricè undulata; ligamentum angustum, lutescens, pruinosum. Long. 8, lat. 5 millim. Hab. Hakodadi. W. S.

In size and form like *C. albus*, but sufficiently distinct by its evident lines of punctures.

C. (Leptochiton) **CRATICULATUS**. T. tenuis, fusco-cinerea, lata, elliptica, admodum carinata; areâ centrali longitud. clathratâ, clathris elevatis, acutis; areis lateral. angustis, elevatis, liris eminentibus asperis divaricantibus 4-8 instructis; valvâ anticâ crescenticâ radiatim liratâ; v. posticâ vix umbonatâ radiatâ;

ligamentum latum. squamis minutis elongatis striatis vestitum, fusco-fasciatum. Long. 30, lat. 20 millim. Hab. China Seas, probably Simoda.

The number of ridges on the lateral areas and terminal valves varies much.

C. (Lepidopleura) *LEPIDUS*. T. parva, elliptica, tectiformis, flavo-virens olivaceo strigata; valva antica semicircularis, radiatim striata; v. postica crescentica, umbonata, radiata, anticè longitud. sulcata; areis lateral. elevatis, sulcis radiantibus ad 6 insculptis; areâ centrali imbricatim sulcatâ; ligamentum angustum olivaceo fasciatum, squamis minutissimis vestitum. Long. 13, lat. 9 millim. Hab. China Sea, lat. 24° N. W. S.

This deeply sculptured little species resembles generally *C. Siculus*.

C. (Chaetopleura) *PLUMOSUS*. T. fusco-cinerea, ovata, valvis concavis vix umbonatis; valvâ anticâ liris radiantibus plumosis ornatâ; v. posticâ parvâ, umbone marginali et costâ submarginali utrinque notatâ; areâ centrali magnâ striis divaricantibus et striis lateralibus plumosè coadunatis ornatâ; areis lateral. parvis, costâ marginali finitis, striis denticulatis, interspatiis clathratis. Ligamentum latum coriaceum, tubulis (setigeris?) instructum. Long. 1.5, lat. .75 poll. Hab.

Allied to *C. cælatus* Rv., which is said to be highly ornamented with green and pink. *C. Collei* and *C. muscosus* G. belong to the same group.

C. (Acanthochaetes) *ACHATES*. T. angusta, elliptica, deluta, fuliginosa, strigâ flavâ utrinque ornata, valvis scutiformibus rostratis et carinatis, apicibus ebeninis glabris, alibi squamatim granulata; valvâ anticâ semiovali; v. posticâ parvâ, trigonâ, umbone subterminali; intus glauca. Ligamentum latum spinis curtis inequalibus et fasciculis spicularum munitum. Long. 30, lat. 20 millim. Hab. Kikaia and Hakodadi Bay. W. S.

C. (Molpalia) *STIMPSONI*. T. tenuis, rotundato-ovata, depressa, fastigiata, fusca, rufo, rosaceo viridi et flavo marmorata vel lineata, concentricè striata; valvis angustis planatis; areis lineâ elevatâ finitis; valvâ anticâ parvulâ, crescenticâ; v. posticâ minimâ, emarginatâ. Ligamentum coriaceum anticè valdè dilatatum,

pilis fimbriatum. Long. 1.5 poll., lat. 1 poll. Hab. Hakodadi Bay. W. S.

Related to *C. Blainvillei*, but smaller, has no perceptible radiating lines on the anterior valve, and is not so vividly colored.

**DENTALIUM ACICULUM.** T. modica, tenuis, levis, nitida, lactea, admodum arcuata, propè apicem longitudinaliter sulcata, alibi undulis annulatis interdum obliquis ornata. Apertura circularis. Long. 30, diam. 3 millim. Hab. Coast of China, 23° 50' N. in sand 25 fathoms. W. S.

**DENTALIUM HEXAGONUM.** T. elongata, attenuata, ossea, arcuata, hexagona, angulis obtusis, lateraliter compressis, interspatiis inornatis; peristomate sexangulari. Long. 55, diam. 4 millim. Hab. Hong Kong, in shelly mud.

**DENTALIUM BUCCINULUM.** T. modica, lactea propè apicem rubiginosa, admodum arcuatum, longitudinaliter sulcis ad 30 arata, versus aperturam evanescentibus, ubi lucida. Long. 30 mill. diam. 3 millim. Hab. Kagosima. W. S.

Most nearly allied to *D. curtum*, but is more deeply grooved.

**DENTALIUM INTERCALATUM.** T. parva, albida, acuta, rapidè ampliata, ad apicem sulcis primum sex deinde 12 æqualibus longitudinalibus sulcata. Long. 18, diam. 2+ millim. Hab. China Seas. W. S.

**DENTALIUM STRIGATUM.** T. benè arcuata, albido-rubescens, sulcis amplis concavis longitudinaliter striatis ad 13 inculpta, dissepimentis angustis, obtusis. Long. 18, diam. 3 millim. Hab. False Bay, C. Good Hope. W. S.

**DENTALIUM PORCATUM.** T. modica, cretacea ad apicem plus minusve rubiginosa, benè arcuata, sulcis tenuibus longitud. 12 sensim ad 20 auctis arata. Axis 20, diam. 2.5 millim. Hab. Hong Kong Harbor. W. S.

**DENTALIUM CLAVATUM.** T. parva, clavata, polita, tenuis ferè hyalina admodum arcuata lateribus obliquè undulatis, versus aperturam valdè contracta. Long. 10, diam. 2 millim. Hab. Hong Kong; not uncommon. W. S.

This would be regarded as a *Ditrupa* had not Mr. Stimpson

given a figure of the animal, which he assures us is a mollusk. It resembles *D. coarctatum* Desh.

**TEREBRATULA TRANSVERSA.** *T. reniformis*, distorta, transversa, tenuis, rufo-flavescens, punctata, costis radiantibus angulatis ornata; valvis flexuosis, convexiusculis lateraliter angulatis; margine cardinali recto; apice vix eminente; foramine magno interrupto; apophysi libero, imprimis exili deinde aculeo divergente munito, denique membranaceo et in laqueo recurvo protracto. Long. 6; diam. transv. 8; lat. 4 poll. Inhabits Hakodadi Bay. W. S.

Like *T. Grayi* as to form, color, and sculpture; the internal supports are much shorter, and the diverging processes and membranous loop are also characteristic.

**TEREBRATELLA MINIATA.** *T. magna*, rhomboideo-ovalis, globoso-lenticularis, punctata, striis incrementi solum insculpta, miniata; valvâ ventrali ventricosâ, sulco mediano modico fluctuatâ, costâ acutâ medianâ intus munitâ; margine postico vix angulato; valvâ dorsali tectiformi, anticè subtruncatâ, posticè rostratâ; foramine modico, integro; apophysi primò gracili, dein subitò latè expanso et ad cristam medianam affixo, denique reflexo et laqueam efformante. Diam. long. et transv. 1.5 poll.; alt.  $\frac{7}{8}$  poll. Inhabits Hakodadi Bay. W. S.

In size, form, and color much like *T. rubra* or *Zelandica*, but less fan-shaped and entirely destitute of radiating furrows or ribs. The surface is like *T. lenticularis*, but is proportionally shorter and trilobately waved. It is, moreover, generically distinct by the union of its apophyses with the central crest.

**RHYNCONELLA LUCIDA.** *T. subcircularis*, tenuissima, lucida, dilutè cornea, valvis subæqualibus, ventricosis, impunctatis, sub lente radiatim striata; foramen integrum, parvum; cardo ut in *Rhynconella*; apophyses? Diameters about  $\frac{1}{4}$  inch. Dredged off Japan Coast, 30° 35' N., 130° 40' E., in 110 fathoms, sand, by Capt. Stevens, of the "Hancock."

Might be taken for a small *T. vitrea*, but is very thin and delicate, and further distinguished by its destitution of punctures.

**DISCINA STELLA.** *T. parva*, discoidea, plano-convexa, tenuis, ex apice vix eccentrico levigato demum radiatim striata;

valvâ inferiori posticè truncatâ, disco rimato cardiformi; limbo radiato, radiis filiformibus admodum articulatis; margine ciliato. Diam.  $\frac{1}{4}$  poll. circiter. Adhering to shells dredged in the China Sea. W. S.

A specimen in Mr. Cuming's collection is much larger. Young specimens are quite destitute of radiating lines.

TRICHOTROPIS ELLIPSOIDEA. *T. parva*, tenuis, ovata, albida, liris quadratis (interspatiis clathratis) cineta; anfr. 6 ventricosis; suturâ canaliculatâ; epidermide tenui, liris ciliatis: apertura ovata, anticè acutè rostrata; labro simplici, arcuato; margine columellari tenui, erecto; umbilico parvulo. Axis 10 millim.; diam. 5 millim. Dredged in Hong Kong Bay. W. S.

Has the aspect of *T. inermis*, as figured by Middendorff, but is smaller, much more elongated, and the pillar and canal are quite different.

TRICHOTROPIS (Iphinœ) CORONATA. *T. ovato-rhomboidea*, turrita, tenuis, cinerea, epidermide fibroso ad carinam in fimbriam cirrosam producto induta; umbilico lato, profundo, acutè marginato; anfr. 6+ citò crescentibus, posticè tabulatis, ad angulum carinatis: apertura ovato-triangularis, labro simplici; columella recta, anticè vix reflexa, acuta, subcanaliculata: operculum ovatum, corneum, apice terminali. Long. 25 millim.; lat. 15 millim. Hab. Arctic Ocean, Straits of Semiavine, 20 fathoms, mud. W. S.

May, perhaps, be *T. ciliata*, Kruger, which I have not seen. A very curious and elegant species.

RINGICULA DENTICULATA. *T. ovata*, acuminata, solida, lactea, striis confertis transversis (exilioribus interdum intervenientibus) insculpta; anfr. 5 ventricosis: apertura angusta; labro admodum incrassato intus denticulato, ferè ad sinum siphonalem interrupto; plicis acutis, transversis; callo modico, haud appresso; dente parietali modico. Axis 5 millim.; diam. 3.5 millim. Inhabits Port Jackson, N. S. W. W. S.

The numerous striæ, denticulate labium, and scantiness of callus about the siphonal notch, mark this species.

RINGICULA DOLIARIS. *T. majuscula*, tenuis, ventricosa, ovata, albida; spira acuminata, anfr. 4 rotundatis, sulcis transversis



remotis insculptis, ultimo amplo; suturâ profundâ: apertura magna, labio angusto, haud incrassato, plicis columellæ tenuibus, acutis, plicâ parietali parvâ, tenui; callo siphonali modico. Axis 5 millim.; diam. 3+ millim. Inhabits Hakodadi Bay, 6 fathoms, sandy mud. W. S.

Peculiar from its thin lip and general want of callus.

**RINGICULA ARCTATA.** T. solida, ovata, acuminata, alba; spiræ anfr. 4+ convexis, ultimo striis volventibus (10-12) insculpto; suturâ profundâ: apertura auriculata, labro incrassato, intus tumido; plicis ad columellam conspicuis; dente parietali robusto, usque ad angulum posticum aperturae protracto; callo labiali lato, sinum siphonalem transeunte. Axis 4; diam. 3 millim. Inhabits Hong Kong Harbor. W. S.

Allied to *R. caron* and *propinqua*, but the sculptured lines are much more crowded.

**BUCCINUM STIMPSONI.** T. magna, solidula, elongata, fusiformi-turrita, cinerea vel dilutè ferruginea, epidermide calcareâ caducâ incrassata, lineis tenuibus cineta; anfr. 6 ad 8+ pyramidalis, pentagonalibus, ultimo anticè excavato, costâ cineto ubi undæ terminantur. Apertura dimidiam longitudinis testæ adæquans, angustè lunata; labro simplici; columellâ arcuatâ, callosâ; fauce dilutè castaneâ vel lividâ. Long. 100; diam. 45 mill. Habitat Arikamcheche Island, Behring's Straits. W. S. Dredged in Arctic Ocean. Capt. Rodgers.

A quite remarkable species, allied to *B. undatum*, but at once distinguished by its elongated form, and its pyramidal, pentagonal whorls with concave sides.

**BUCCINUM RODGERSI.** T. ovato-lanceolata, solidula, luteo-cinerea crustâ cretaceâ sub epidermide tenuissimâ induta, striis exilissimis cineta; anfr. 8 tumidulis spiram elongatam nunc undulatam nunc æquam efformantibus, ultimo trientes duas long. metiente et in rostram satis productam sensim contracto. Apertura ovata dimidiam long. testæ haud æquans, labro evaso, posticè sinuato; columellâ callo benè indutâ; fauce flavidâ vel lividâ. Long. 55; diam. 25 millim. Inhabits Arikamcheche Island, Behring's Straits. W. S. Common in 20-30 fathoms, muddy gravel, Arctic Ocean, north of Behring's Straits. Capt. Rodgers.

Like *B. undatum* the varieties are very widely contrasted as to the undulation of the surface, and but for the uniformly slender growth and elongated beak might possibly have been brought under that species.

NEPTUNEA (s. g. Siphon) TEREBRALIS. *T. elongata*, ovato-fusiformis, rufo-cornea, externè cretacea longitudinaliter ordinatim striata, costis et fossis subæqualibus (anfr. spiræ ad 8) cineta; anfr. 7+ rotundatis supernè tabulatis, ultimo trientem long. testæ adæquante. Apertura pyriformis, rostro modico, labro arcuato, intus denticulis submarginalibus instructo et strigis rufis costis respondentibus ornato. Axis 60 millim.; diam. 25 millim. Inhabits Arctic Ocean.

In general form, like *N. Icelandica* excepting as to the angularity of the posterior part of the whorls, but clearly distinguished by the exterior ribs and grooves. The lip is broken, but there is a specimen from Spitzbergen, in good condition, in Mr. Cuming's collection, from which I have taken the character of the lip.

NEPTUNEA ARATA. *T. parva*, ovato-fusiformis, solidula, rufo-cinereascens, striis profundis incisa et striis incrementi concinnè clathrata; anfr. 5+ ventricosus ad suturem declivibus, undulatis, ultimo subvaricoso; sutura exili. Apertura pyriformis, dimidiam long. testæ adæquans, labro acuto, serrulato, intus denticulato; columellâ subperforatâ, callo rufo indutâ. Axis 23 millim.; diam. 10 millim. Inhabits ——?

NEPTUNEA ÆSTUOSA. *T. ovata*, solida, fulvo-cinerea, sulcis angustis remotis cineta, et fluctibus obliquis ad 12 ornata; anfr. 5+ tumidis posticè carinatis et apud fluctus subnodosis, versus suturem declivibus. Apertura lunata, labro acuto intus sulcato; columellâ admodum excavatâ; rostro brevi valdè recurvo. Axis 45; diam. 25 millim. Inhabits Kagosima. W. S.

EUTHRYA LACERTINA. *T. ovato-fusiformis*, longitudinaliter undulata et strigis rufis ornata, ad peripheriam pallidè zonata; anfr. 6 convexus propè suturem constrictis, et filis confertis cinctis. Apertura dimidiam long. testæ adæquans, lunata, posticè acuta; labro arcuato, crenulato, intus sulcato, sulcis fusco tinctis; columellâ flexuosâ; rostro brevi, lato. Axis 25 millim.; diam. 10 millim. Inhabits Simon's Bay, Cape of Good Hope. W. S.

Resembles *Pisania D'Orbigny* or *P. maculosa*; but the furrows within the lip, want of posterior callus, and shortness of canal, as well as general form, distinguish it.

*PISANIA MOLLIS*. T. elongata, ovato-rhomboidea, subtenuis, cinerea, epidermide duracino induta; anfr. 6 convexis vix plicatis, posticis spiraliter filosis, filis anticè liras duas efformantibus; anfr. ultimo  $\frac{3}{4}$  long. testæ, liris anticè ad 8 et liris numerosis minoribus posticis cincto; suturâ profundâ. Apertura angusta, ovata; labro acuto denticulato; fauce sulcatâ, lividâ; columellâ vix callosâ; rostro satis elongato. Axis. 22 millim.; diam. 12 millim. Inhabits Simoda. W. S.

*FUSUS MODESTUS*. T. parva, elongata, ovato-lanceolata, rufis, fusco-cinerea, longitud. undulata (undis ad 15) et liris conspicuis ad 5, minoribus intervenientibus cincta; striis incrementi lamellosis; anfr. 7 tumidulis. Apertura ovata dimidiam longit. testæ haud æquans; labro simplici intus subsulcato; fauce castaneâ. Axis 25 millim.; diam. 6 millim. Inhabits Hakodadi, in 10 fathoms, shelly sand. W. S.

*PERISTERIA FENESTRATA*. T. parva, fusiformis, flavido-rubescens, liris exilibus confertis cincta, interspatiis concinnè clathratis, longitud. vix plicata, liris binis suturæ propinquis majoribus alveolas efformantibus; anfr. 6 convexis, ultimo anticè constricto; suturâ profundâ. Apertura ovata dimidiam longitud. testæ adæquans; labro concinnè crenato, intus sulcato; columellâ callo erecto anticè indutâ; rostro ferè clauso. Axis 13 millim.; diam. 6 millim. Inhabits Simon's Bay, Cape of Good Hope. W. S.

Only a single specimen was found; quite remarkable for the contraction about the beak, and the embrasure-like pits near the suture.

*PERISTERIA INCULTA*. T. parva, solida, fusiformis, rufa; anfr. 8 convexis ad suturam declivibus liris inæqualibus cinctis et fluctibus ad 7 ornatis, ultimo vix dimidiam longitudinis æquante, costâ basali inconspicuâ in dentem ad labrum productâ; rostro gracili contorto. Apertura rotundato-ovata; labro crenulato intus denticulato; columellâ leviter plicatâ; fauce luteâ. Axis 25 millim.; diam. 12 millim. Inhabits ———?

In the young stage, there is a long, delicate spine on the outer lip, as in *Leucozonìa*, which becomes obsolete with age.

**SISTRUM PARVULUM.** T. parva, ovato-rhomboidea, fusco-cinerea, longitudinaliter ad 9-plicata et costis 5 nodulosis cincta; anfr. 5 angulatis, supernis erosis, costâ unicâ nodulosâ cinetis. Apertura angusta, lunata, dimidiam longitudinis testæ adæquans; fauce fuscescente; labro fusco maculato intus albo-dentato; columellâ politâ. Long. 12; diam. 7 millim. Habitat Simon's Bay. W. S.

The color and nodulations are much as in *S. tuberculatum*, but the form is more rhombic, and the size much less.

**NASSARIA CURTA.** T. parva, elongata, ovato-rhomboidea, solidula, straminea ante suturam pallidior et fulvo maculata; anfr. 6+ ventricosis filis ad 8 volventibus et plicis ad 15 longitud. ornatis. Apertura angusta ovalis; labro incrassato intus denticulato; laminâ columellari erectâ; rostro modico, recto. Axis 10; diam. 6 millim. Inhabits Port Jackson. W. S.

It is smaller than any species in the Cuming Collection, and has a short beak. It is like *N. carduus*, Rv., but has more delicate waves.

**MUREX (Ocinebra) IMPROBUS.** T. parva, rudis, rhomboideo-fusiformis, lineis incrementi muriculata, cinereo-fulvida, strigis et fasciis obscuris rufescentibus et cingulo albido ornata; anfr. 6+ medio angulatis posticè excavatis vel declivibus, anticè plicas 7 ad 8 tuberculosas gerentibus, filis inæqualibus numerosis ubique cinctis quorum duobus anterioribus majoribus. Apertura dimidiam longitud. testæ adæquans, angusta, ovato-rhomboidea; labro denticulato intus incrassato et sulcato; fauce citrinâ vel lividâ; columellâ politâ; rostro subperforato. Axis 25; diam. 12 millim. Inhabits China Seas, in sand, 25 fathoms. W. S.

Much like *O. buxeus*, but shorter.

**TROPHON INCOMPTUS.** T. ovato-trigona, solida, rudis, cinerascens; spira turrita, anfr. 6 angulatis posticè tabulatis, ultimo ventricosus, trigono, liris inæqualibus (tribus majoribus) cinctis, longitudinaliter undulis inordinatis et laminis incrementi instructis. Apertura ovata posticè rotundata; labro simplici papillis

paucis intus instructo; canali brevi recurvo ferè clauso; fauce castaneâ. Axis 30 millim.; diam. 16 millim. Inhabits Hakodadi. W. S.

Closely allied to *T. crassus*, which has the suture channelled and the lip dentate; young specimens have the laminae quite prominent, with small spines at the angles.

**TROPHON SUPPOSITUS.** *T. pyriformis*, turrata, tenuis, sordidè alba, laminis erectis remotis clathrata, interspatiis concavis levibus; anfr. 6 convexis posticè tabulatis; ultimo bulboso anticè in rostrum tenuem recurvum protracto. Apertura ovata  $\frac{3}{5}$  longit. testæ adæquans; columellâ porcellanâ. Axis 30 millim.; diam. 15 millim.; aperturæ long. 20 millim. Inhabits ———?

**TRITON (Monoplex) FOSSATUM.** *T. solida*, subglobosa, flavida; spira brevis, anfr. sex fossâ latâ profundâ sejunctis et costulis duabus cinetis (costulis striâ medianâ impressis) et undulas longitudinales noduliferas remotas gerentibus: apertura angusta, perobliqua posticè rotundata; labro varicoso, denticulato intus sulcato; labio erecto sulcato, sulco postico majori; rostro brevi. Axis 35; diam. 30; apert. 20 millim. Habitat, Hong Kong. W. S.

Like *T. canaliferus* this would be at once noticed for the deep sutural channel; but it is altogether of a short, ventricose form, with a very short canal. It approaches, in form and sculpture, to *T. doliarius*, which lacks the canal and has a longer beak.

**TEREBRA BIPARTITA.** *T. parva*, subulata, gracilis, tenuis, nitida, ubique striis exilibus confertis cineta, et plicis modicis flexuosis ad 15 munita; anfr. 14 convexiusculis posticè leviter instrictis, posticè flavidis anticè castaneis, ultimo filo flavo cineto: apertura lunata; rostro curto, lato. Axis 15; diam. 4+ millim. Inhabits Hakodadi Bay, 20 fathoms. W. S.

**TEREBRA ARGUTA.** *T. parva*, gracilis, turrata, ad apicem lanceolata, ex stramineo rubescens; anfr. 12+ convexis, plicis ad 20 eminentibus acutis, ad interspatia lineis volventibus impressis et posticè striâ profundâ incis; ultimo anticè cancellato ad rostrum constricto: apertura perangusta, flexuosa; columellâ violaceâ. Axis 25; diam. 5 millim. Inhabits Porto Praya. W. S.

Closely allied to *T. violascens*, Hinds, from New Guinea.



**TEREBRA PROLIXA.** *T. modica*, subulata, subtenuis, nitida; anfr. 16 conicis, plicis ad 20 acutis parum elevatis ornatis, posticè striâ volvente incisis; colore dilutè fulvo vittâ rufâ demum evanescente et vittâ pallidâ angulo postico aperturæ exeunte ornato: apertura ovata; columellâ contortâ rufâ. Axis 33; diam. 8 millim. Off China Coast, in 25 fathoms, sandy. W. S.

A distinctly fluted species. *T. amœna* is smaller, shorter, and differently colored.

**NASSA SUFFLATA.** *T. ovato-conica*, ventricosa, subtenuis, cinerascens, fusco prope suturam tessellata etiam hic illic maculata, striis volventibus paucis anticè et striis binis posticè inculpata: spira acuta, turrita; anfr. 7+ posticis plicatis, ultimo amplo: apertura lata; labro acuto, serriculato; columellâ vix callosâ. Long. 22; diam. 12 millim. Inhabits Hong Kong Harbor. Kgosima. W. S.

Allied to *N. dispar* and *N. mutabilis*.

**NASSA BEATA.** *T. parva*, ovato-conica, solida, polita, grisea fulvido vittata, costis acutis ad 15 striâ subsuturali incisis ornata, interspatiis concavis, anfractu ultimo ad dorsum simplici anticè striis 3-4 cineto: apertura parva angusta; labro incrassato intus profundè sulcato; columellâ callosâ, plicato-granulosâ. Axis 10; diam. 6 millim. Inhabits Loo Choo, in 18 fathoms, sandy. W. S.

Very near to *N. optata*, which has a beaded rather than a fluted surface; and the lip and pillar of the aperture are unarmed.

**NASSA REPOSTA.** *T. solida*, ovato-conica, rudis, cinerea, plicis inconspicuis 12-14 demum carentibus, et filis remotis (supernè 4) ornata; anfr. 7 convexis posticè sub-angulatis: apertura ampla rotundato-ovata; labro incrassato expanso intus denticulato; columellâ valdè arcuatâ luteâ, vitreâ; fauce fusco-rufâ posticè luteo-fasciatâ. Axis 12; diam. 7 millim. Inhabits Sydney, N. S. W.?

**NASSA MUSTELINA.** *T. parva*, elongata, ovato-conica, polita, livida maculis pallidis fusco marginatis variegata, ad anfractum ultimum posticè et anticè vittis pallidis (marginibus articulatis) et lineis binis medianis usque ad labrum acutum pallidum prolongatis

cineta; anfr. 8 convexis elevatis: apertura ovata; labro acuto pallido intus polito; rostro pallido; columellâ arcuatâ porcellanâ; fauce lividâ vittis binis pallidis ornata. Axis 12; diam. 8 millim. Inhabits Ousima, off the coast, in 2 fathoms, coarse clean sand. W. S.

Allied to *N. zonalis*, but is much larger.

**NASSA QUANTULA.** T. parva, subtenuis, ovato-globosa, rufo-albida; anfr. 6 convexiusculis, plicis ad 12 et filis confertis volventibus quorum uno postmediano rufo ornatis: apertura ampla rotundato-ovata; labro extus incrassato. Axis 7; diam. 3 millim. Inhabits St. Simon's Bay. W. S.

**NASSA OPTATA.** T. subtenuis, ovato-conica, acuta, polita, albida demum ferrugineo variegata; anfr. 7 convexiusculis ad 12-plicatis, plicis ad anfr. ultimum tandem carentibus, striis volventibus 5 quorum præsuturali profundiore gemmulas efformante secantibus; suturâ profundâ: apertura latè ovalis; labro intus laevi, extus incrassato rufo variegato; columellâ admodum callosâ. Axis 10; diam. 6 millim. Inhabits Sydney Harbor. W. S.

Very closely resembles the figure of *N. Gayi* of the Conch. Iconica, which, however, is believed to represent a larger and more ventricose shell than that of Kiener.

**NASSA DERMESTINA.** T. parva, elongato-ovata, posticè acuta, cinerea; anfr. 7 rotundatis 15-16 plicatis et filis ordinatim cinctis; suturâ impressâ: apertura parva, rotundata; labro incrassato intus denticulis et sulcis instructo; columellâ excavatâ leviter plicatâ. Axis 8; diam. 4 millim. Inhabits Kikaia. W. S.

**NASSA PLEBECULA.** T. parva, solida, elongata, ovato-conica, albida; anfr. 8 suturâ profundâ sejunctis, plicis ad 16 ornatis plerumque ad anfr. ultimum carentibus, et filis nitidis rufescentibus ad 5 cinctis quorum uno majore: apertura parva, subrotunda; labro albo intus denticulato et sulcato, extus latè incrassato, fusco maculato; rostro abbreviato. Axis 15; diam. 7 millim. Inhabits Ousima. W. S.

More slender than *N. ambigua* and *incrassata*, but closely allied.

**NASSA PEDICULINA.** T. parvula, solida, ovato-conica, rudis,

straminea, plicis ad 12 elevatis et filis rufescentibus 5 ad plicas dilatatis ornatis; anfr. 7 convexis, apicalibus simplicibus, ultimo anticè coarctato; suturâ profundâ: apertura subcircularis; labro obtuso, extus incrassato; columellâ callo erecto instructâ; sinu siphonali profundo. Axis 6; diam. 4 millim. Inhabits Hong Kong Harbor. W. S.

Most noticeable for its large folds, unfinished aspect, and constriction about the beak.

**NASSA SPURCA.** T. parva, acuta, ovato-conica, cinerascens vel rufescens lineâ spirali flavidâ cincta, plicis numerosis et filis supercurrentibus ubique cancellata; anfr. 7 ventricosus: apertura parva rotundata; labro extus incrassato, intus sulcato; columellâ arcuatâ, callo fuscescente sparsim granulato indutâ; fauce fusco vittatâ. Axis 10; diam. 6 millim. Inhabits St. Simon's Bay, in 12 fathoms, sandy. W. S.

The fine rasp-like surface and dusky aspect, with the single pale belt, distinguish it; somewhat like a small *N. trivittata*. This and the preceding belong to the subgen. *Tritia*, Adams.

**MITRA JACULANDA.** T. parva, symmetrica, fusiformis, cinereo-rubescens fusco dilutè nubeculata, sulcis longitudinalibus ferè continuis et lineis volventibus levioribus (8) anticis sensim remotioribus clathrata; anfr. 7 rotundatis, ultimo  $\frac{2}{3}$  longitud. testæ adæquante; suturâ exili: apertura angusta; labro intus denticulato; columellâ 4-plicatâ. Axis 8; diam. 2.5 millim. Inhabits China Seas. W. S.

Allied to *M. recurva*, Rv., but the sculpture is much more delicate.

**MITRA SECALINA.** T. minuta, fusiformis, obtusa, impolita, fulva; anfr. 6, apicalibus secundis, lævibus, ceteris striis exilibus longitudinalibus et transversis quadrulas efformantibus ubique ornatis; suturâ tabulatâ: apertura angusta, posticè quadrata; labro acuto, exiguè crenulato, intus denticulato; columellâ 3-plicatâ. Axis 6; diam. 3 millim. Inhabits Ousima. W. S.

**MITRA RUSSA.** T. parva, elongato-ovata, castanea vel aurantiaca, nitida, plicis ad 14 ad anfractum ultimum solum expositis, et striis exilibus ad interspatia ornata; anfr. 6 admodum con-

vexis, apice mamillato, ultimo anticè instricto, et lineis volventibus cineto: apertura angustè lunata prorsum dilatans; labro acuto; columellâ 4-plicatâ. Axis 6; diam. 3 millim. Inhabits China Seas. W. S.

*COLUMBELLA BALTEATA*. T. minuta, rhomboidea, elongata, nitida, straminea vittâ fulvâ cineta; anfr. 7 tribus posticis simplicibus, ceteris lyratis et lineâ subsuturali impressis, interspatiis transversim striatis: apertura angustè lunata; labro simplici. Axis 4; lat. 2 millim. Inhabits China Seas.

The cutting of the folds by the subsutural line forms a circle of beads.

This and the following eight species belong to the subgen. *Anachis* H. & A. Adams.

*COLUMBELLA* (*Anachis*) *NEBULOSA*. T. parva, elongato-ovata, turrata, nitida dilutè flavida saturatiori variegata; anfr. 8 tabulatis convexiusculis lineâ suturali et undulis ad 20 ornatis, ultimo dimidiam longitud. testæ superante, posticè solum undulato, striis volventibus retrorsum decrescentibus insculpto: apertura trientem longitudinis testæ adæquans, lunata. Axis 6; lat. 25 millim. Inhabits China Seas. W. S.

*COLUMBELLA* (*Anachis*) *DORSUOSA*. T. parva, elongata, ovato-fusiformis, nitida, cerina, vittâ rufâ præsuturali, alterâ rostrum circumambiente variegata, plicis 7 et striis tenuibus transversis ornata; anfr. 8 convexiusculis posticè abruptis: apertura lunata antrorsum angustata; labro acuto. Axis 7; lat. 3 millim. Inhabits Hong Kong. W. S.

*COLUMBELLA* (*Anachis*) *MINUTA*. T. minuta, ovata, turrata, straminea, plicis acutis (12) apud strias rostrum cingentes repentè terminantibus insculpta; anfr. 6 benè discretis: apertura trientem longitudinis testæ penè adæquans, satis lata; labro intus modicè gibboso. Axis 2.5; diam. 1 millim. Inhabits China Seas. W. S.

Allied to *C. parva*, Sowb., which is less slender, and has a brown sutural band.

*COLUMBELLA* (*Anachis*) *ZONATA*. T. minuta, fusiformis, nitida, cerina, vittâ subsuturali castaneâ et alterâ basali latiori

cineta, plicis flexuosis 10-12 ornata; anfr. 6 posticè instrictis, ultimo ad rostrum elongatum subitò contracto: apertura angusta; columellâ valdè arcuatâ; labro acuto, simplici. Axis 3; diam. 2 millim. Inhabits Kagosima. W. S.

*COLUMBELLA* (Anachis) *FULMINEA*. T. parvula, ovato-lanceolata, nitida, castanea lineis angulatis flavidis variè dispositis, et plicis flexuosis demum disparentibus ornata; anfr. 6 convexis ultimo anticè striis cineto: apertura angusta, dimidiam longitudinis testæ vix adæquans, posticè rotundata; labro simplici posticè leviter incrassato, intus lævi; fauce purpurascente. Axis 7; diam. 3 millim. Inhabits St. Simon's Bay. W. S.

The folds are unusually distinct and prominent.

*COLUMBELLA* (Anachis) *ATRATA*. T. minuta, crassa, ovato-lanceolata, anthracina, anticè striis cineta; plicis acutis ad 12 anticè obsolescentibus; anfr. 6 tumidis, modicè tabulatis: apertura angusta posticè acuta; labro simplici posticè sinuoso, intus vix denticulato; fauce atratâ. Axis 5; diam. 2 millim. Inhabits Hong Kong Harbor. W. S.

*COLUMBELLA* (Anachis) *MINUSCULA*. T. minuta, crassa, elongata, acuminata, fusca; anfr. 7 convexusculis vix discretis, plicis tenuibus rectis interdum anticè obsoletis clathrata: apertura perangusta, dimidiam longitud. testæ adæquans, posticè acuta; labro arcuato, acuto, simplici, intus granulato; columellâ arcuatâ, callo modico indutâ. Axis 4; diam. 1.5 millim. Inhabits Ousima. W. S.

Though so small, its characters are well marked. A variety is thinner, horn-colored, with two dark revolving threads.

*COLUMBELLA ALTERNATA*. T. minuta, elongato-ovata, nitida, straminea maculis elongatis rufis interruptè vittatâ, ad anfractum ultimum duplicatis; anfr. 5, plicis ad 12 eminentibus obtusis et striis anticalibus volventibus ornatis: apertura curta, angusta; labro incrassato intus crenato. Axis 3; diam. 1.5 millim. Inhabits Hong Kong. W. S.

Sufficiently designated by its stripes of elongated spots arranged on alternate folds.

*COLUMBELLA VIRGINEA*. T. minuta, rhomboideo-fusiformis,



lactea, plicis (14) et anticè striis paucis munita; anfr. 6 tabulatis et lineâ subsuturali in sculptis, ultimo  $\frac{2}{3}$  longitud. testæ adæquante antrorsum angustato et admodum recurvo: apertura perangusta, flexuosa; labro edentato; columellæ callo erecto. Axis 4; diam. 1 millim. Inhabits China Seas. W. S.

This small species has the principal characters of the genus *Pyrene*, Bolten.

**COLUMBELLA BICINCTA.** T. parva, ovata, turrata, tenuis, levis, cinerascens fulvo bicincta; anfr. 8 convexiusculis; suturâ impressâ: apertura lunata; labro arcuato, acuto intus denticulato; columellâ violaceâ, callo tenui, anticè tuberculato. Axis 10; diam. 4+ millim. Inhabits Hong Kong Harbor, 10 fathoms, shelly sand. W. S.

This species and the three succeeding belong to the genus *Amylea*, H. & A. Adams, more especially to the subgenus *Astytis*.

**COLUMBELLA LINEOLATA.** T. parva, ovato-lanceolata, crassa, polita, straminea filis 4 fulvis cincta (ad anfr. ult. 8); anfr. 8 convexis, apicalibus plicatulis, ultimo  $\frac{2}{3}$  longitud. testæ adæquante anticè striis cincto: apertura lunata; labro tenui posticè sinuato, intus denticulato; callo columellari copioso; canali curto, lato. Axis 10; diam. 4 millim. Inhabits Hong Kong.

Very closely resembles *C. lactea*, Sowb.

**COLUMBELLA DECOLOR.** T. parva, ovato-lanceolata, polita, straminea ferrugineo interdum maculata; anfr. 6+ convexis, apicalibus concinnè plicatis, ultimo anticè striato: apertura satis ampla; labro tenui anticè subitò incurvato intus denticulato; columella concava denticulo acuto posticè munita; canali curto, angusto. Axis 9; diam. 4 millim. Inhabits Loo Choo. W. S.

**COLUMBELLA ARANEOSA.** T. parva, ovato-lanceolata, levigata, fulva albido exiliter reticulata et hic illic maculata; anfr. 8 convexiusculis subtabulatis, apicalibus inornatis, ultimo subangulato anticè striato: apertura angusta, posticè rotundata; labro simplici, arcuato, violaceo tineto, intus denticulato; callo columellari copioso, everso, absque denticulo. Axis 10; diam. 4 millim. Inhabits Kagosima Bay and China Coast. W. S.

Generally resembles *C. austrina*, Gask., except in color.

**COLUMBELLA** (Strombina) **PUNGENS**. *T. parva*, lanceolata, polita, ex stramineo fulvescens antrorsum pallescens, plicis numerosis ornata; anfr. 10 conicis, ultimo gibboso subitò constricto ibi spiraliter striato; suturâ impressâ: apertura angusta; labro posticè sinuato, incrassato, antrorsum attenuato; columellæ callo in medio extruso, posticè sinuato; rostro longo, recurvo. Axis 10; diam. 4 millim. Inhabits Port Lloyd, Bonin Islands, common. W. S.

A miniature representation of *C. angularis*, Sowb.

**DRILLIA VALLATA**. *T. parva*, lanceolata, lurida; anfr. 10 posticè abruptis, quisque carinam marginalem et fila (1-2) intercurrentia gerens; interspatiis concinnè clathratis; anfr. ultimo subventricosus, filis ad 10 cincto, additis duobus minoribus in sinu terminantibus: apertura  $\frac{1}{3}$  totius longitudinis, angusta; labro exstante, sinu lato, profundo; columellâ lævi; rostro brevi, lato. Axis 9; diam. 3 millim. Inhabits vicinity of Hong Kong, in 10 fathoms, shelly mud. W. S.

Allied to *D. violacea*.

**DRILLIA RECIPROCA**. *T. parva*, lanceolata, flavescens retrorsum lutescens et obscurè stringata; anfr. 10 convexiusculis, 4-5 carinatis (ult. anfr. 10-12) carinâ medianâ eminentiore, interspatiis clathratis, clathris intervalli postici alteris contrariè obliquis: apertura  $\frac{1}{4}$  totius longitudinis; labro valdè producto; sinu lato, profundo; rostro brevi, lato, contorto. Axis 12; diam. 4 millim. Inhabits Ousima. W. S.

Much like the preceding; but the color and relative size of carinæ are different.

**DRILLIA EBOREA**. *T. parva*, solida, lanceolata, ex eburneo lutescens, striis exilissimis transversis ubique insculpta; anfr. 8+ supernis plicatulis, ultimo  $\frac{1}{2}$  totius longit. testæ: apertura lunata; labro simplici, crasso, anticè angulato; sinu crescentico; columellâ callo erecto munitâ; rostro brevi, reflexo; canali angusto ferè clauso.

Shell small, solid, lanceolate, yellowish white, everywhere densely and faintly grooved by transverse lines, most so near the sutures, apical whorls longitudinally folded; whorls 8+, the last quite half the length of the shell: aperture narrow, lunate,

placed somewhat laterally; lip thick, simple, with a slight sinus near its posterior junction; pillar with a thick, erect callus, quite thick posteriorly; rostrum reflexed. Axis 14 millim.; diam. 4 millim. Inhabits Kikaia Island. W. S.

This is a singular species, in structure much like *Clavatula felina*, Hinds, but in its aperture and canal approaching to Klein's section *Epidromus* of the genus *Triton*.

**BELA TURGIDA.** T. parva, crassa, ovata, lactea, epidermide corneo fugaceo induta, sulcis numerosis (28) longitudinaliter arata, interspatiis duplo lationibus et striis confertis transversis in sculptis; anfr. 6 curvis, ventricosis; suturâ profundâ: apertura ovata dimidiam totius longitudinis brevior; labro simplici arcuato; columellâ planulatâ, porcellanâ; rostro angusto, curto. Axis 10; diam. 5 millim. Inhabits Kamtschatka. W. S.

**CLATHURELLA PEREGRINA.** T. ovato-fusiformis, solida, obscure fulva, plicis obtusis ad 18, filis transversis (ubi plicas decussantibus dilatatis) ornata; anfr. 6 + ventricosis: apertura  $\frac{2}{3}$  totius longitudinis lunata, posticè rotundata; labro acuto intus lamellato; canali brevi, angusto abruptè incepto. Axis 12; diam. 5 millim. Inhabits Sydney Harbor.

Closely allied to *C. assimilis*, but less colored, and the striae less crowded.

**CLATHURELLA ASPERSA.** T. parva, lanceolata, gracilis, cinerea ferrugineo-maculata, plicis 15-18 flexuosis filis ad 6 transeuntibus clathrata; anfr. 8 perobliquis, convexis posticè paulum constrictis, ultimo  $\frac{1}{2}$  totius longitudinis antrosum acuminato, plicis et filis omnino ornato: apertura lanceolata; labro incrassato, inflecto, intus laevi; sinu lato, profundo; rostro elongato. Axis 14; diam. 4 millim. Off Hong Kong, in 15 fathoms, shelly sand. W. S.

*C. Guildingii*, Rv. may be the same described from a small specimen.

**CLATHURELLA FILOSA.** T. ovata, turrita, tenuis, cinerea lineis rufis cineta, plicis flexuosis ad 16 suturam posticè haud attigentibus, et filis transversis 6 ad plicas dilatatis ornata; anfr. 10 ventricosis, tabulatis, ultimo anticè constricto: apertura latè lunata; labro admodum arcuato; sinu juxta suturam, haud profundo; columellâ nudâ. Axis 20; diam. 10 millim. Inhabits Ousima. W. S.

**CLATHURELLA RUBICUNDA.** T. minuta, crassa, ovato-turrita, dilutè rosacea filis pallidioribus lineâ saturatiori divisis et vittâ subsuturali pallidiori ornata; anfr. 6+ ventricosis citò crescentibus, undulis 10 et filis transversis (ad anfr. penult. 6) clathratis: apertura curta, angusta; labro tumido intus denticulato; sinu angusto, profundo; columellâ flexuosâ; canali brevi. Axis 5; diam. 2 millim. Inhabits Loo Choo. W. S.

**CLATHURELLA LACUNOSA.** T. minuta, crassa, ovata, testacea, clathris et filis transversis eminentioribus cancellata, cancellis quadratis profundis; spira obtusa, anfr. 6 angulatis posticè excavatis: apertura dimidiam totius longitudinis, angustè lunata; labro incrassato intus lævi; sinu minimè profundo; columellâ flexuosâ. Axis 5; diam. 2.5 millim. Inhabits Hong Kong Harbor, in 10 fathoms, shelly bottom. W. S.

**CLATHURELLA AMPLEXA.** T. parva, fusiformis, albida fusco (ad anfractum ult.) fasciata, plicis acutis flexuosis ad 10 et striis numerosis confertis (quorum duæ juxtâ suturam majoribus) insculpta; anfr. 10 convexiusculis, declivibus, ultimo rhomboideo; suturâ profundâ, crenulatâ: apertura latè lunata; labro tenui; sinu lato, minimè profundo. Axis 9; diam. 3 millim. Inhabits Simon's Bay, in 12 fathoms, sandy bottom. W. S.

Possibly *C. lirata*, which it certainly resembles.

**DAPIINELLA DELUTA.** T. parva, tenuis, fusiformis, flavescens maculis ferrugineis zonata, striis elevatis exiguè reticulata, transversis aliquid majoribus; anfr. 7+ convexiusculis elongatis: apertura longa angusta posticè acuta; labro inflecto intus denticulato; sinu valdè profundo; canali brevi, lato; columellâ protractâ in medio tumidâ. Axis 20; diam. 5 millim. Inhabits China Seas. W. S.

**CYTHARA LOTA.** T. parva, ovato-rhomboidea, crassa, alba, plicis acutis ad 12 lyrata et striis profundis (præsuturali aliis majori) cineta; anfr. 4 spiram abbreviatam efformantibus, ultimo antrorsum declivi: apertura angusta, dimidiam totius longitudinis excedens; labro crasso, inflecto, intus dentato; sinu profundo; columellâ sulcis obliquis ad 7 insculptâ. Axis 5; diam. 3 millim. Inhabits China Seas. W. S.

**CLAVATULA PUNGENS.** *T. parva*, fusiformis, cinerea, plicis acutis ad 20 anticè evanescentibus et liris 10-12 (quarum post-suturali majori) plicas undulatim supercuntibus ornata; anfr. 7+ rotundatis, ultimo in rostrum gracilem desinente: apertura parva, pyriformis  $\frac{1}{2}$  totius longitudinis testæ; labri sinu angusto, minimè profundo. Axis 9; diam. 3 millim. Inhabits Hong Kong Harbor, in 10 fathoms, shelly sand. W. S.

This shell has the aspect of *Clavatula*, and is very like to *C. debilis*. Hinds; but as the operculum principally characterizes that genus, the generic place must be uncertain.

**MANGELIA PURA.** *T. parva*, subgibbosa, fusiformis, lactea filis exilissimis confertis versus apicem subgranulatis cineta; anfr. 6+ convexiusculis, ultimo maximo rhomboideo, elongato; suturâ lineari: apertura angusta, ovalis; sinu profundo ferè clauso; labro simplici quadrato; canali recto; rostro sine constrictione. Axis 7; diam. 2 millim. Inhabits Hong Kong Harbor. W. S.

This might perhaps come under the genus *Cythara*.

**MANGELIA INTAMINATA.** *T. parva*, solida, fusiformis, corallina, plicis tenuibus acutis ad 12 lyrata, et filis ad 5 quorum mediani crassiori cineta; anfr. 6+ convexiusculis, ultimo rhomboideo,  $\frac{1}{2}$  totius testæ superante, anticè constricto, filis 10 (quorum uno post constrictionem majori) cincto: apertura angusta; labro incrassato, crenulato, anticè excurvato; sinu parvo. Axis 7; diam. 3 millim. Inhabits China Seas. W. S.

**MANGELIA ALBICINCTA.** *T. minuta*, elongata, ovato-turrita, dilutè rosacea, ad 11-undulata et filis ubique cineta (4 ad anfr. ultimum quorum tertio albo); anfr. 7 rotundatis, apicalibus inornatis: apertura angusta, sigmoidea; labro varicoso intus 4-denticulato; sinu angusto, minimè profundo; rostro brevi. Axis 4; diam. 2 millim. Inhabits Loo Choo Seas. W. S.

**MANGELIA GLAREOSA.** *T. minuta*, rhomboidea, turrita, crassa, calcarea, plicis elevatis ad 12 et liris transversis ordinatis quicquid minoribus ornata, inde granulata; anfr. 5+ tabulatis: apertura angusta, posticè acuminata,  $\frac{1}{2}$  totius longitudinis vix brevior; labro crasso, crenulato; sinu minimè profundo. Axis 5; diam. 2 millim. Inhabits Hong Kong Harbor, in 10 fathoms, shelly bottom. W. S.



**MANGELIA LUTEA.** T. minuta, acicularis, aurantiaca, plicis 8 conspicuis posticè suturam laud attigentibus, et striis minimè impressis ad interspatia ornata; anfr. 7 planulatis posticè tabulatis, apicalibus inornatis, ultimo rhomboideo  $\frac{1}{3}$  totius longitudinis adæquante: apertura angustè ovalis; labro simplici, incrassato, quadrato; sinu lato, brevissimo. Axis 5; diam. 2— millim. Inhabits Loo Choo Seas. W. S.

**MANGELIA DEMPSTA.** T. minuta, brevis, rhomboideo-fusiformis, lactea, plicis conspicuis ad 8, et filis volventibus crassis ornata; anfr. 6 castellatis posticè angulatis, ultimo  $\frac{1}{2}$  totius longitudinis æquante: apertura linearis; labro acuto posticè incrassato; sinu brevi, lato. Axis 3; diam. 1 millim. Inhabits China Seas. W. S.

Remarkable for its elongated rhomboidal form and coarse sculpture.

**MANGELIA SEMIASSA.** T. rhomboideo-fusiformis, crassa, nitida, albida anticè livida, 8-plicata et striis exilissimis volventibus insculpta; anfr. 6 angulatis; suturâ impressâ: apertura  $\frac{1}{2}$  totius longitudinis, pyriformis, anticè acuminata; labro simplici incrassato; sinu vix notato; columellâ rectâ, lividâ. Axis 8; diam. 3 millim. Inhabits —?

**MANGELIA TETRAGONA.** T. acicularis, turrita, quadrangularis, (angulis compressis), lactea, striis subtilissimis confertis transversis insculpta; anfr. 6 pyramidatis, apicali mamillato: apertura  $\frac{1}{3}$  totius longitudinis, satis ampla; labro incrassato posticè angulato. Axis 6; diam. 2 millim. Inhabits China Seas. W. S.

**MANGELIA CONCINNA.** T. tenuis, elongato-ovata, turrita, nitida, striis exilissimis transversis insculpta, straminea maculis quadratis ferrugineis juxtâ suturam, deinde vittâ angustâ albâ, denique fasciis et lineis rufescentibus picta; anfr. 8 posticè declivibus, supernis strigatis: apertura  $\frac{1}{2}$  totius longitudinis, angusta; labro tenui; sinu ferè desiderato; columellâ rotundatâ, politâ; canali lato brevissimo. Axis 10; diam. 4 millim. Inhabits Loo Choo. W. S.

**OLIVELLA SPRETA.** T. parvula, elongato-ovata, livida, strigis flexuosis longitudinalibus flavidis picta: spira admodum elevata;

anfr. 4; suturâ canaliculatâ: apertura  $\frac{2}{3}$  totius longitudinis citò dilatata; columellâ plicis eminentibus bifidis rufis munitâ. Axis 6; diam. 3 millim. Inhabits Hong Kong Harbor, in 10 fathoms, shelly sand. W. S.

Most like *O. mutica*, but the pillar lip differs.

Genus *Æsopus*. Animal albidum; soleâ anticè emarginatâ, posticè obtusâ operculum corneum flabelliforme gerente; capite parvo; vibraculis curtis obtusis; oculis externis medianis; siphone lato, brevissimo. Testa fusiformis, gibbosa, anticè latè truncata; aperturâ lunatâ, angulo postico callo impleto; columellâ simplici vitreo indutâ; suturâ propè aperturam abnormaliter arcuatâ.

The curious curve of the suture near the posterior angle of the aperture, as if it had been drawn backward, thereby pulling back this angle and curving the last whorl downward, is very peculiar. The form and aspect of the shell, and the structure of the animal, indicate its place to be intermediate between *Mitra* and *Columbella*.

*Æ. JAPONICUS*. T. parva, solidula, castanea, prope suturam pallescens, striis volventibus incisa; anfr. 7 tumidulis, posticis plicatulis, ultimo ovali, latè truncato,  $\frac{3}{5}$  totius long. testæ adequate: apertura lunata; peritremate reflexo; columellâ laminâ vitreâ latâ suberectâ indutâ. Axis 7; diam. 2 millim. Inhabits Kagosima Bay, at 5 fathoms, sandy bottom. W. S.

The only species as yet found, but quite peculiar enough to distinguish it from all other shells.

This very distinct genus, both as to shell and animal, plainly belongs to the family *Amphiperasidae*, having the form and lip of *Ovula*, while the base is traversed by sharp transverse ridges, as in *Cypræa*, passing over the pillar into the aperture. The broad and short tentacles, the position of the eyes, and the long, obtuse foot of the animal, are quite peculiar.

Genus *CRITHE*. Animalis discus elongatus, anticè truncatus, angulis vix productis, posticè obtusus; collum dimidiam latitudinis disci, anticè bifurcatum; tentaculis brevibus triangularibus, oculis minutis externis, basalibus. Testa porcellana, convoluta, utrinque rostrata: apertura angusta, arcuata; labro simplici; ventre laminis transversis acutis totus arato.

**CRITHE ATOMARIA.** *T. minutissima*, lactea, ovularis, levigata: apertura coarctata, laminis ventralibus ad octo. Axis 0.5; diam. 0.3 millim. Inhabits the China Seas. W. S.

Shell very minute, milk-white, glossy, ovate, somewhat acute at extremities, most so at summit, where there is a delicate groove; aperture very narrow and uniformly so; rostrum short, slightly recurved; ventral laminae directly transverse, about eight in number, and, as the pass into the aperture, giving the appearance of coarse denticles on the pillar.

This peculiar little shell is the only one of the genus yet observed. The animal is citron-colored, the viscera slate-colored, the eyes reddish black, very small.

**PERSICULA TANTILLA.** *T. minuta*, oliviformis, candida, polita: spira occulta: apertura linearis anticè vix dilatata; labro apicem paullo superante, simplici acuto; columellâ plicis obliquis acutis 5 munitâ. Axis 3; lat. 1.5 millim. Inhabits China Seas. W. S.

It has the form of *P. imbricata*.

**MARGINELLA (Glabella) LEPIDA.** *T. minuta*, ovato-trigona, tenuis, polita, lactea: spira elevata lateribus concavis; anfr. 3: apertura angusta; sinu posticè parvo; labro incrassato concinnè crenulato; columellâ denticulis acutis 4, postico minimo, et plicâ siphonem circumambiente instructâ. Axis 3; diam. 2 millim. Inhabits China Seas. W. S.

Allied to *M. lævis*.

**MARGINELLA SEMINULA.** *T. minuta*, ovoidea, polita, tenuis, lactea: spira obtusa, vitro coöperta: apertura antrorsum dilatata, posticè rotundata; labro simplici posticè subsinuato et in plicam posticam columellæ desinente; plicis 4 perobliquis; columellâ nudâ. Axis 4; diam. 3 millim. From a Gorgonia in False Bay, Cape of Good Hope. W. S.

Foot of the animal twice as long as the shell, truncate in front, dilated at sides, lanceolate and carinate posteriorly; mantle not enveloping the shell; tentacles long subulate; eyes lateral near the base of vibracula. The shell belongs to the section *Prunum* of Martini.

**VOLVARINA PUELLA.** *T. parva*, ovato-cylindracea, subflexuosa, polita, ex eburneo flavescens: spira depresso-conica; anfr.

4, ultimo elongato-ovato; suturâ vitreâ: apertura antrorsum dilatata; labro tenui, inflecto, posticè callo modico suffulto; columellâ 4-plicatâ. Axis 12; diam. 6 millim. Inhabits Simon's Bay, in 18 fathoms, gravelly bottom. W. S.

Resembles *V. zonata*, but is much larger; possibly the shell given by Sowerby as a variety, though no traces of bands are visible. Like *V. taniata* in form and size, but with a different lip. The animal is very active, of a pale lemon-color, with blotches of flake-white and very numerous crimson points; margin of mantle dark chocolate. Generally like the animal of *Perisicula*.

AMPHIPERAS BULLATUS. *T. tenuis*, ovato-globosa, rubicundula, lineis incrementi et posticè striis volventibus insculpta: apertura linearis; labro angusto vix crenulato, porcellano, utroque pariter producto, posticè canalem contortam obliquam callo circumdatam efformante, anticè unâ cum plicâ columellari canalem brevem angustam definiente.

Closely resembles *A. umbilicatus* and *margarita*, but wants the perforation and triply dentate callus of the former, and is much less acuminate, with a less distinct canal and a denser and more crenulated lip, than the latter.

PLANAXIS INEPTA. *T. minuta*, glabra, ovato-lanceolata, albidolutescens, apice, lineâ subsuturali, et lineis alteris minoribus nigris, posticè et ad basin sulcis cincta; anfr. 8-10 convexis: apertura angusta; labro simplici, tessellato; columellâ modicè excavatâ; callo postico copioso. Axis 4; diam. 2.5 millim. Inhabits Kikaia Bay, at low-water mark. W. S.

Allied to *P. succincta*.

PLANAXIS CINGULATA. *T. parva*, crassa, ovato-turrita, glabra, fusco-rufâ flavido alternatim zonata, striâ intercurrente; anfr. 7 convexusculis, apicalibus granulosus, ultimo magno: apertura angustè ovata; labro obliquo intus 7 denticulato et fasciato; columellâ excavatâ, rufâ. Axis 12; diam. 6 millim. Inhabits Ousima, under stones, at low-water mark. W. S.

TURRITELLA GRACILLIMA. *T. parva*, gracillima, acicularis, tenuis, dilutè fulva, fasciâ pallidâ cincta; anfr. 18-20 convexusculis, filis volventibus tribus et antrorsum nonnullis minoribus



sculptis; basi convexo, nitido: apertura circularis. Axis 20; diam. 4 millim. Inhabits Kagosima Bay. Very common. W. S.

One of the most delicate of species, looking like a young shell; but the number of specimens and of the whorls would indicate this as the usual aspect of the shell.

CERITHIUM LACERTINUM. T. turrita, fusiformis, tenuis, cinerea fusco maculata; anfr. 10 convexiusculis benè discretis, posticis plicatis et filis granulosis 4 ad anfractum ultimum demum simplicibus cinctis, minoribus plerumque intervenientibus: apertura semilunaris; labro acuto; rostro abbreviato. Axis 13; diam. 4 millim. Inhabits Sydney Harbor. W. S.

Exceedingly like *C. lima*, Brug. It has no varices however, is less slender, and differently colored. It is also like *C. granarium*, Kiener.

CERITHIUM STIGMOSUM. T. elongato-conica, albida, granulata, granulis fusciscentibus in seriebus tribus dispositis quorum medianâ ad anfractus anticos bipartitâ; anfr. 8+ convexiusculis, ultimo varicoso: apertura rotundato-ovata; columellâ arcuatâ, callosâ; rostro brevissimo, obliquo. Axis 7; diam. 2+ millim. Inhabits Bonin Is. W. S.

A minute species with the characters of *C. lacteum* and *C. papillosum*.

CERITHIUM PLACIDUM. T. minuta, elongata, acutè conica, lactea (apice rufo), crassa; anfr. 11 convexiusculis, filis 5-6 cinctis, posticis plicatis etiam granulatis; suturâ impressâ: apertura  $\frac{1}{6}$  totius longitudinis, rotundato-ovata; rostro brevissimo. Axis 8; diam. 2 millim. Inhabits China Seas. W. S.

Another small species of the same group.

BITTIUM CRATICULATUM. T. parva, subulata, fusca, plicis circ. 20 et liris acutis volventibus majoribus 4 supereuntibus alveolata; anfr. 10 ad modum convexis, ultimo varice munito et plicis anticè privato: apertura parva, rhomboideo-ovata,  $\frac{1}{4}$  totius longitudinis æquans; rostro brevissimo. Axis 6; diam. 2 millim. Inhabits Hong Kong; laminarian zone. W. S.

Similar to *B. glareosum*, but less slender, the aperture smaller, and the sculpture not beaded.



**BITTIUM GLAREOSUM.** *T. conica, elevata, turrita, leviuscula, dilutè rufà; anfr. 10+ planulatis, filis granulosis 4 cinctis et longitudinaliter ad 20-plicatis, ultimo varicoso et anticè constricto: apertura ovato-rotundata, posticè acuta; labro simplici; columellâ latè arcuatâ. Axis 6; lat. 2 millim. Inhabits Port Lloyd, Bonin Is., and Loo Choo Is. W. S.*

**BITTIUM PARCUM.** *T. parva, ovato-turrita, cinerea ad apicem vitrea, undulis ad 10 anticè evanescentibus et filis 6 (ad anfr. ult. 10+), filo minori plerumque interposito, ornata; anfr. 7+ rotundatis, duobus anticis nonconformibus: apertura rotundato-ovata,  $\frac{1}{3}$  totius longitudinis æquans; labro vix incrassato; columellâ callo copioso indutâ. Axis 5; diam. 2 millim. Inhabits Loo Choo Is. W. S.*

**BITTIUM ALUTACEUM.** *T. parva, elongato-ovata, acuminata, fusca; anfr. 8+ planulatis benè discretis, singulis gemmularum seriebus tribus hic nigris illic corneis instructis, ad anfr. ultimum in liras articulas (filo interjecto) mutatis: apertura subcircularis; canali brevissimo. Axis 7; diam. 3 millim. Inhabits China Seas. W. S.*

Much in the style of *C. granarium*, but much smaller. The granules are very distinct and well rounded, being separated by longitudinal furrows.

**CERITHIOPSIS LAQUEATA.** *T. elongato-conica, rufà; anfr. 13+ planatis eleganter bicarinatis; carinis acutissimis, remotis, posticâ majore, alterâ ad peripheriam, quintâ anteriori; interstitiis latis tenuè clathratis; basi planatâ radiatim striolatâ: apertura quadrata; labro a carinis 5-crenato. Axis 8; diam. 2 millim. Inhabits China Seas. W. S.*

Most nearly related to *C. assimolata*, C. B. Ad., but its form is more tapering and its posterior keel larger.

**CERITHIOPSIS AURANTIACA.** *T. minuta, ovata, flavido-aurantia; anfr. nucleosis lineis spiralibus et radiantibus decussatis; anf. normalibus 5 planatis carinatis; carinis quoad spiram duabus validis obtusis haud remotis; alterâ infra peripheriam; alterâ denique circa basin; luminis longitudinalibus circ. 16 carinas decussantibus, tuberculosi; suturâ inconspicuâ: apertura? (fracta). Axis 2; diam. 1+ millim. Inhabits China Seas. W. S.*

Resembles *C. pupiformis* from Mazatlan, but differs in the details of sculpture.

**CERITHIOPSIS SEMIPICTA.** T. minuta, crassa, ovata, albida, bizonata; anfr. 7 bicarinatis, carinis obtusis, tuberculatis, quarum posterior albida, anterior balaustina sunt; tuberculis circ. 16 validis elongatis; carinâ ante peripheriam, alterâ denique ad basin: apertura quadrata? (fracta). Axis 2.5; diam. 1 millim. Inhabits China Seas. W. S.

Resembles *C. sorex* from Mazatlan, except in sculpture.

**CERITHIOPSIS RUGOSA.** T. turrito-conica, rudis, cinerea; anfr. 12+ carinâ medianâ et alterâ anticali cinctis, interspatio concavo et laminis ad carinas dilatatis clathrato; intervallo postico convexo obversè clathrato; basi lineis incrementalibus solum inculpto; suturâ inconspicuâ: apertura subquadrata; rostro abbreviato; columellâ contortâ. Axis 15 diam. 4 millim. Inhabits China Seas. W. S.

Allied in form and size to *C. terebellum*, *C. metula*, and *C. punctatum*, but very differently sculptured.

**TRIFORIS INTERCALARIS.** T. alba, subulata; anfr. nucleosis 5, primo lævi ceteris unicarinatis; normalibus 16 planatis, carinis in spirâ cinctis, primum duabus remotis rotundatis, dein alterâ minori intermediâ sensim crescente donec alteris æquante; ad peripheriam denique quartâ; clathris ad 20 carinas decussantibus, intersectionibus tuberculosus; carinis duabus circa basin et canalem parum tuberculosus: apertura parum expansa; canalibus apertis, brevibus. Axis 6; diam. 1.5 millim. Inhabits China Seas. W. S.

**TRIFORIS INTERFILATUS.** T. conico-cylindrica, dilutè rufo-fusca; anfr. 10+ bicarinatis; carinis acutis, tertiâ ad suturam; inter carinas leves, totâ superficie clathratâ, clathris radiantibus circ. 30 rotundatis, interstitiis angustis; super clathras, inter carinas spirales, filo parvo spirali; circa basin carinis duabus rotundatis haud clathratis; basi radiatim rugoso: apertura expansa, suborbicularis; labro a carinis 4 et aliis intercalantibus eleganter undato; canalibus apertis, antico elongato, tortuoso, postico brevi, satis profundo. Axis .3; diam. .06+ poll. Inhabits Hong Kong Harbor. W. S.

Resembles *T. corrugatus*, Hinds, but the canal and basal sculpture are different.

**TRIFORIS CALCULIFERUS.** *T. conico-turrita*, albida, sub-cylindracea; anfr. 12 planulatis, seriebus duabus quasi calculorum tertiâ quoque minore terminali ornatis, interstitiis spiraliter striulatis; carinâ in basi haud tuberculatâ; suturâ inconspicuâ: apertura (tracta)? canalibus clausis, antico tortuoso, postico parvo. Axis 6; diam. 2 millim. Inhabits Loo Choo. W. S.

**TRIFORIS CLATHRATUS.** *T. dilatato-subulata*, alba; anfr. 9 convexiusculis, carinis spiralibus cinctis, in spirâ 3 (posticâ minore), ad peripheriam quartâ, circa basin duabus minoribus, a clathris circ. 16 decussatis, juncturis gemmatis; suturâ distinctâ: apertura (tracta)? canalibus brevibus, apertis. Axis 4; diam. 1.5 millim. Inhabits China Seas. W. S.

**ALABA PUNCTO-STRIATA.** *T. alba*, hyalina, ubique spiraliter tenuissimè striata, striis punctulatis; anfr. 4 convexiusculis, posticis levibus, viridioribus, alteris plerumque tervaricosis, varicibus rotundatis niveis: apertura ovata, anticè parum effusa; labro acuto; columellâ aurantiaco tinctâ. Axis .18; diam. .07 poll. Inhabits Loo Choo Is. W. S.

The generic place of this beautifully transparent and delicately sculptured shell is somewhat doubtful.

**RISSOINA TROCHLEARIS.** *T. parva*, crassa, cinerea, ovoidea; anfr. nucleosis tribus levibus, normalibus 4 convexiusculis, ultimo carinis 7 elevatis acutis cincto, quarum 2-4 (plerumque 3) spiram ascendunt; interstitiis latè excavatis, sæpè clathratis: apertura ovalis; peritremate continuo vel in juniorem effuso. Axis .16; diam. .073 poll. Inhabits China Seas. W. S.

Resembles *Parthenia exarata*; and possibly may be a *Rissoa*.

**RISSOINA IMBRICATA.** *T. ovato-lanceolata*, porcellana, nitida; anfr. 8 planulatis, tabulatis, liris imbricantibus numerosis cinctis: apertura ovata, effusa; peritremate expanso, simplici; columellâ tortâ. Axis 7; diam. 3 millim. Inhabits China Seas. W. S.

**RISSOINA FLEXUOSA.** *T. fusiformis*, turrita, straminea; anfr. 7 convexiusculis, plicis obtusis flexuosis circ. 15 clathratis, et lincis volventibus numerosis cinctis: apertura satis magna, semi-

circularis ; peritremate simplici, expanso, anticè effuso. Axis 6 ; diam. 2 millim. Inhabits Sydney Harbor. W. S.

**RISSOINA NITIDULA.** T. acicularis, vitrea, nitida ; anfr. 9 ad suturam profundè declivibus, plicis inconspicuis ad 18 et filis volventibus circ. 4 inculptis : apertura ovata, vix effusa ; peritremate acuto, filis crenato. Axis 5 ; diam. 2 millim. Inhabits China Seas. W. S.

**RISSOINA VILICA.** T. elevato-conica, turrita, alba ; anfr. 9 tabulatis, clathris ad 20 obtusis et liris 4-5 sensim antrorsum decrescentibus decussatis. Apertura modica vix anticè sinuosa ; peritremate simplici expanso, vix incrassato. Axis 6 ; diam. 3 millim. Inhabits Loo Choo and Kikaia. W. S.

**RISSOINA MODESTA.** T. fusiformis, ventricosa, solida, alba ; anfr. 9 convexis, sulcis numerosis longitudinalibus minutis et striis volventibus exilibus decussatis ; apice acuminato. Apertura obliqua, anticè effusa ; peritremate simplici, expanso, incrassato. Axis 5 ; diam. 2.25 millim. Inhabits Loo Choo. W. S.

**RISSOINA STRIGILLATA.** T. fusiformis, turrita, vitrea, lactea ; anfr. 8. convexiusculis ; suturâ profundâ ; anfr. ultimo clathris elevatis circ. 22, et costis volventibus sensim remotioribus ad 10 cancellato, et ad decussationes gemmato. Apertura parva, vix effusa ; peritremate crenato ; sulco postsiphonali profundo, et in rimam umbilicalem producto. Axis 5 ; diam. 2.20 millim. Inhabits Loo Choo Is. W. S.

This and the three following species, having an acute elevated ridge with an adjacent constriction around the beak, and with a predominance of longitudinal folds, constitute a well-defined subgenus which may be called **RISSOLINA**.

**RISSOINA PLICATULA.** T. fusiformis, turrita, cinerascens ; anfr. 8 + convexiusculis, plicis acutis rectis 15 ornatis, carinam postsiphonalem amplexantibus ; interspatiis lineis volventibus inculptis. Apertura ovoidea ; peritremate incrassato. Axis 6 ; diam. 2 millim. Inhabits Port Lloyd, Bonin Is. ; Loo Choo Is. ; Kikaia. W. S.

**RISSOINA LYRATA.** T. lanceolata, acuminata, albida ; anfr. 10 convexiusculis costas acutas flexuosas circ. 23 gerentibus, ad inter

spatia striis tenuibus volventibus, insculptis, ultimo dimidiam longitudinis testæ subæquante; costâ basali elevatâ acutâ. Apertura angusta, effusa. Axis 6; diam. 2.5 millim. Inhabits Kikaia and Ousima. W. S.

**RISSOINA TORNATILIS.** T. subulata, acuminata, straminea; anfr. 9 + convexis, clathris acutis longitudinalibus circ. 22, filis elevatis volventibus 4-5 insignibus. Apertura modica, anticè vix effusa; peritremate acuto, extus valdè incrassato, crenato. Axis 5.5; diam. 2 millim. Inhabits Loo Choo. W. S.

**ALVANIA ACUMINATA.** T. gracilis, turrita, straminea; anfr. nucleosis 3 levibus, dein duobus bicarinatis, denique 4 normalibus, tumidis plicis subacutis et carinis (3) eleganter cancellatis. Apertura ovata; labro tenui; columellâ aurantiaco tinctâ. Axis 3; diam., 1 millim. Inhabits Bonin Is. W. S.

Closely allied to *A. excurvata*, Cpr.

**ALVANIA FENESTRATA.** T. minuta, conica, lucida; anfr. nucleosis 2 helicoides; normalibus 4 ventricosis, anticè aurantiacis, posticè albidis, eleganter fenestris (clathris angustis circ. 15, liris spiralibus 2, quartâ vel quintâ circa basin haud decussatis) interstitiis quadratis, levibus. Apertura suborbicularis; labro continuo, acuto; columellâ aurantiaco tinctâ. Axis 2; diam. 1 + millim. Inhabits China Seas. W. S.

Broad in proportion to its length, and exquisitely sculptured.

**ALVANIA QUADRATA.** T. minutissima, alba, lanceolata; anfr. 4 quadratim decussatis, clathris circ. 16, liris spiralibus 3, circa basin tribus additis. Apertura subovalis; labro incrassato. Axis 1.6; diam. .8 millim. Inhabits China Seas. W. S.

The apex is not perfect enough to decide the genus positively, but the aspect is essentially *Alvanoid*.

**ALVANIA PURA.** T. elongata, acuta, lactea, nitida, clathris circ. 24 et filis volventibus (5-6) decussata, ad anfr. ultimum filis 10 quorum tribus anticis moniliferis et constrictione alteris sejunctis; anfr. 8 convexis. Apertura semicircularis, obliqua, effusa labro acuto, varice externo suffulto. Axis 6; diam. 2 millim. Inhabits Simoda. W. S.

**ALVANIA LIGATA.** T. solida, acutè ovata, subperforata; epidermide rufâ induta et carinis circ. 4 (ad anfr. ult. 7) cincta,



suleis concavis sejunctis ; anfr. 5 + ventricosus. Apertura rotundato-ovalis, peritremate integro anticè vix sinuato ; labro crasso, expanso, carinis dentato, extrorsum varicoso. Axis 4 ; diam. 1 + millim. Dredged in Hong Kong Harbor. W. S.

Curious for its dusky exterior and prominent keels like a minute *Planaxis*.

ALVANIA FUSCA. T. crassa, ovato-acuminata, rufa, filis volventibus (8) et filis longitudinalibus majoribus (20) cancellata intersectionibus gemmulatis ; anfr. 8 convexus, ultimo anticè constricto. Apertura angusta, ovata, effusa ; peritremate continuo ; labro acuto, extrorsum varicoso. Axis 5 ; diam. 1.5 millim. Dredged in Hong Kong Harbor. W. S.

Resembles the preceding in color, but is more elongated and differently sculptured.

CINGULA (?) ATOMARIA. T. minutissima, solida, conica, flavido-aurantia, apice obtuso ; anfr. 5 planulatis, suturis impressis ; ultimo ad peripheriam subangulato. Apertura suborbicularis, labro posticè incumbente. Axis 1.5 ; diam. 1 millim. Inhabits China Seas. W. S.

The apex decides it to be a *Rissoïd*, though its general aspect is that of *Auriculina*, and by the contraction of the aperture it approaches *Nematura*.

OBELISCUS ORNATUS. T. parva, solida, nitida, elongato-conica, exalbida vel carneola, lineâ rufâ postsuturali et striis confertis exilissimis cineta ; anfr. 14 planulatis ; suturâ canaliculatâ. Apertura rotundato-ovata anticè angulata ; columellâ plicâ posticâ et plicâ medianâ inconspicuâ munitâ. Axis 16 ; diam. 6 millim. Inhabits China Seas. W. S.

Characterized by its numerous whorls and brown thread. It has the form and size of *O. reticulatus*, A. Ad., and if not new, must be a variety of that species.

OBELISCUS BUXEUS. T. crassa, acutè conica, buxea ; anfr. 10 planulatis, ultimo ad peripheriam angulato ; suturâ profundâ, angulatâ. Apertura subquadrata ; labro acuto ; columellâ plicâ solitariâ subparietali munitâ. Axis 6.5 ; diam. 2 millim. Inhabits China Seas. W. S.

Known by its peculiar color and solitary plait.

**SYRNOLA SUBULA.** T. valdè acuta, solida, polita, alba; anfr. 9 planatis (lineâ rufâ cinctâ?); suturâ impressâ; basi productâ. Apertura ovalis; peritremate continuo; columellâ plicâ unicâ acutâ, declivi instructâ. Axis 4; diam. 1 millim. Inhabits China Seas. W. S.

It has the continuous peritreme of *Eulimella*, and the plait of *Odostomia*. Not uncommon among fossil forms. The genus has recently been established by A. Adams, and may be his *S. cinctella*.

**EULIMA CARNEOLA.** T. elevata, conica, subdiaphana, incarnescente nitidissima; anfr. apicalibus 3 stylinis primo globoso, dein 2 conicis, denique 5 planatis; suturâ vix notatâ; basi rotundatâ: labro haud sinuato; labro incrassato. Operculum tenue, parum spirale, aperturam æquans. Axis 4 +; diam. 1.5 millim. Inhabits Ousima. W. S.

An unusually broad conical species of peculiar yellowish flesh color.

**ODOSTOMIA BULLULA.** T. minuta, ovata, margaritacea, lucida; nucleo parvo, immerso; anfr. 5 tumidis; suturâ impressâ, marginatâ; basi ovatâ, imperforatâ. Apertura rotundato-ovalis; labro haud sinuato; columellâ acutâ, plicâ inconspicuâ, declivi. Axis. 2 +; diam. 1 + millim. Inhabits Loo Choo. W. S.

**ODOSTOMIA PLANATA.** T. elongata, pyramidalis, tenuis, lactea, polita; nucleo nutante, immerso; anfr. 8 planatis suturâ vix instrictis; basi perforatâ, protractâ. Apertura ovalis; labro posticè sinuato; plicâ columellari conspicuâ, acutâ. Axis 6.5; diam. 2 millim. Inhabits Hong Kong. W. S.

Well marked by its pyramidal form, perforate axis, and close approach to *Obeliscus*.

**ODOSTOMIA SUBPLANATA.** T. tenuis, elongato-ovata, lævis, flavo-albida; nucleo parvo, laterali, immerso; anfr. 4 vix convexis, tabulatis; basi productâ, imperforatâ. Apertura ovata; labro haud sinuato; plicâ columellari conspicuâ, acutâ. Axis 2.7; diam. 1 + millim. Inhabits Hong Kong. W. S.

Distinguished from the preceding by its less flattened whorls and imperforate column.

**ODOSTOMIA LIRATA.** T. majuscula, albida, acicularis; nucleo minuto, laterali, effosso; anfr. 6 rotundatis, liris quadratis (5-7)

cinctis, interstitiis eleganter clathratis; basi productâ, perforatâ. Apertura ovalis, parum effusa; labro concinnè serrulato; columellâ flexuosâ, vitreâ, plicâ parvâ, obtusâ, parum declivi. Axis 8.5; diam. 4 + millim. Inhabits China Seas. W. S.

This beautifully sculptured shell has the general aspect of *Monoptygma*, but the columellar twist of *Odostomia*.

*ODOSTOMIA SCALARINA*. T. elongata, acicularis, albida; nucleo parvo, laterali, celato; anfr. 7 tumidis, posticè subangulatis longitudinaliter obliquè clathratis, clathris circ. 18 subcontinuis. Apertura ovata; columellâ tenuissimâ, plicâ inconspicuâ, declivi. Axis 4; diam. 1 + millim. Inhabits Loo Choo. W. S.

*ODOSTOMIA OBTUSA*. T. oblonga, ovata, crassiuscula, albida; nucleo parvo, dislocato; anfr. 5 convexiusculis, sulcis circ. 8 remotis cinctis, suturâ impressâ. Apertura ovata; labro incrassato; columellâ tenui, plicâ parvâ acutâ. Axis 2 +; diam. 1 millim. Habitat Port Lloyd, Bonin Is. W. S.

*ODOSTOMIA VIRIDESCENS*. T. minuta, solida, conica, viridans; nucleo celato; anfr. 5, carinis 3 (5 ad anfr. ult.) conspicuis, perobtusis, cinctis, interstitiis angustis. Apertura ovata; labro incrassato; plicâ columellari eminente, peracutâ, transversâ. Axis 3; diam. .7 millim. Inhabits China Seas. W. S.

Remarkable for its pea-green color.

*ODOSTOMIA PHYSOIDES*. T. solida, lævis, elongato-ovata, alba; nucleo magno, physæformi, trivolvi, nutante; anfr. 5 convexiusculis; suturâ impressâ; basi rotundatâ. Apertura ovalis; plicâ columellari erectâ, acutiore. Axis 3 +; diam. 2 millim. Inhabits China Seas. W. S.

Distinguished from other species by its minute physa-like apex.

*ODOSTOMIA SOLUTA*. T. lanceolata, tenuis, alba, spiraliter tenuissimè striata; apice helicoideo eminente; anfr. 8 convexiusculis, perobliquis, tabulatis; suturâ benè impressâ; basi acuminatâ. Apertura angusta, lunata; labro acuto; plicâ columellari, modicâ, perobliquâ. Axis 4.5; diam. 1 + millim. Inhabits Loo Choo. W. S.

*MONOPTYGMA PUNCTICULATA*. T. ovato-conica, acuta, lucida, cerea; nucleo satis magno vix nutante; anfr. 7 spiraliter tenuis-

simè striatis, striis (circ. 7) plerumque minutissimè puncticulatis; basi protractâ. Apertura ovata; labro acuto; plicâ columellari inconspicuâ, obtusâ. Axis 10; diam. 3.5 millim. Inhabits China Seas. W. S.

**MONOPTYGMA ACUMINATA.** T. parva, subulata; tenuis, polita, ex albo viridescens; nucleo laterali; anfr. 10, ultimo dimidiam totius longitudinis aequante, subangulari; suturâ lineari, lineâ subsuturali comitante. Apertura angustè ovata; plicâ columellari modicâ. Axis 6; diam. 2 millim. Inhabits Ousima. W. S.

**MONOPTYGMA SINUATA.** T. ovato-conica, tenuis, albida; vertice declivi, celato; anfr. 6 rotundatis, striulis incrementi, et striis volventibus tenuissimis rugulatis. Apertura ovata; labro acuto posticè sinuato; plicâ columellari acutâ, declivi. Axis 18; diam. 4 millim. Inhabits China Seas. W. S.

Has an Odostomoid look, and in growth is like *Limnea truncatula*.

**TURBONILLA OBELISCUS.** T. satis magna, solida, elongata, albida; nucleo trivolvi, lucido, nutante; anfr. 12 planatis, clathris 20-36 obtusis, interdum interruptis ornatis, interstitiis parum impressis antrosum sensim evanescentibus; basi subglobosâ. Apertura ovato-quadrata; labro tenui; columellâ parum intortâ. Axis 10.5; diam. 3 millim. Inhabits Simon's Bay, at low water, under stones. W. S.

**TURBONILLA CÆLATA.** T. ovato-turrita, obtusa, solida, alba, nucleo bivolvi, helicoideo, nutante; anfr. 9 planatis, tabulatis, clathris 20-24 rectis plerumque continuis, angustis; interstitiis aequantibus, striis 10-12 spiraliter exaratis; basi rotundatâ minus insculptâ; columellâ valdè intortâ. Axis 6.7; diam. 1.7 millim. Inhabits Hong Kong. W. S.

Well marked by its obtuse point, deep sculpture, and strongly twisted pillar.

**TURBONILLA ORNATA.** T. gracilis, ochracea, fasciâ præsuturali, et basali albidâ cineta; anfr. 8 + planatis, clathris rectis validis obtusis omnino munitis; interstitiis vix aequantibus profundis, striis 10-14 spiraliter insculptis; suturâ impressâ; basi ovatâ. Apertura ovata; columellâ haud valdè intortâ. Axis 6.7; diam. 1.5 millim. Inhabits Hong Kong. W. S.

Similar to *T. interrupta*. Prettily ornamented by its pale base and suture with orange band shading into pink.

CHEMNITZIA IOTA. *T. minima*, gracillima, lactea; nucleo helicoideo, bivolvi, inclinato; anfr. 6-8 subplanatis, tabulatis, clathris rectis conspicuis 14-16 et striis volventibus (6-10) ad interstitia quadratim omnino decussatis. Apertura ovalis; columellâ vix intortâ. Axis 2 +; diam. .7 millim. Inhabits ——?

Two somewhat worn specimens vary a good deal in size and form.

CHEMNITZIA CIRCUMDATA. *T. ovato-conica*, polita, straminea vittâ aurantiacâ cincta; anfr. 8 vix convexis et sutura vix indicatis, posticis plicis numerosis indistinctis ornatis, ultimo haud inculpto et vittis 5 ornato. Apertura angusta; peritremate acuto. Axis 5; diam. 2 millim. Inhabits Sydney Harbor. W. S.

CHEMNITZIA TRACHEALIS. *T. pyramidalis*, solida, alba; nucleo parvo, valdè declivi; anfr. 8 costis rotundatis validis 4 cinctis, quarum unâ tenuiore sæpè in suturam celatâ; interstitiis omnino tenuissimè clathratis. Apertura ovata; columellâ vix intortâ. Axis 5.7; diam. 1.7 millim. Inhabits Simon's Bay. W. S.

In the deficiency of the columellar fold it differs from the Chemnitzia generally, as well as from Chemnitzia proper, in the absence of bars and in the spiral sculpture. For these peculiarities Mr. P. P. Carpenter\* proposes a sub-generic distinction under the name of s. g. POLYSPIRELLA. It is intermediate between Aclis and Parthenia.

DUNKERIA EFFUSA. *T. valdè protracta*, gracillima, albida; anfr. 10 tumidis, posticis sejunctis, lirulis rectis circ. 30 sæpè confluentibus clathratis, interstitiis tenuissimè decussatis. Apertura ovata; columellâ parum intortâ. Long. 6; lat. 1 + millim. Habitat Loo Choo. W. S.

This elegant little shell connects Chemnitzia with Aclis, from which it differs in its fine bars and slightly twisted columella.

CÆCUM GRACILE. *T. valdè teres*, parva, alba, annulis circ. 24, approximatis, subacutis ornata. Apertura haud contracta, nec

\* To Mr. Carpenter I am greatly indebted for working out the diagnoses of very many of the smaller shells described in this paper.



declivis, annulo crasso cineta; margine laterali subplanato; operculo? Long. 2; diam. .3 millim. Inhabits China Seas. W. S.

The only specimen found is worn and defective, but clearly distinct from any yet described. It is most like *C. pulcherrimum*, but is more slender and has the rings closer. It belongs to the group *Anellum* of Carpenter, the best authority on this genus, and to whom I am obligated for determining this species.

Another species closely resembling *C. elongatum*, but too young and imperfect for description, was obtained. These are the only specimens yet noted from the Japan or China seas, where they seem to be much more rare than in tropical American waters.

**HYALA ABNORMIS.** T. pupæformis, hyalina, tenuissima, straminea, valdè distorta; nucleo celato, declivi; anfr. 4 nonconformibus, posticis citò crescentibus subangulatis, ultimo cylindrico, elongato anticè contracto; suturâ profundâ, quasi incisâ. Apertura subrotunda, effusa; columellâ plicâ posticè munitâ. Long. 1.7; lat. .6 millim. Inhabits China Sea; coral regions.

This very curious little shell, so remarkable for its short, distorted spire and deep suture, if not a distinct genus, is allied to *Stylifer*, and may for the present be assigned to this genus or to the subgenus *Auriculina*, Gray, which seems to be equivalent to *Jeffreysia* or *Rissoella*. Odostomoid shells without a folded lip; though I think a distinct posterior fold is to be made out in this specimen. The animal alone can settle its true position.

**CHELETROPIS GLOBOSA.** T. minutissima, pellucida, lævis tenuissima; nucleo declivo, celato; anfr. 4 tumidis; suturâ perspicuâ. Apertura ovata (?); peritremate continuo; columellâ valdè sinuatâ (forsan plicatâ). Axis 1 +; diam. 8 millim. Inhabits China Seas. W. S.

Two specimens of this very minute shell, quite fresh, were obtained, both having the aperture somewhat fractured. Its generic place is doubtful. The somewhat beak-like prolongation and its tenuity seems to attach it to this genus, which is considered to be a Pteropod. If it does not belong here, it must be allied to the preceding shell.

**CARINARIA CORNUCOPIA.** T. parva, hyalina, elongata, subtriangularis, compressa, plicis angulatis reclinibus ad cristam

retrorsum inclinatis ornata; apice spirali anfractus 4 dextrorsum, unicum sinistrorsum volventes monstrante; cristâ elevatâ, lunatâ, spiram haud attigente: apertura angusta, ovata. Long. 10; diam. maj. 9; diam. min. 5; cristæ alt. 3 millim. Taken at sea, south of the Caroline Islands. W. S.

The unusual length of the shell, the very elevated crest, equalling half the major diameter, and the waved, almost plicate surface, make this a strongly marked species.

**TECTARIUS LUTEUS.** *T. parva*, biconica, lutea, epidermide calcarâ incrustata, lineis incrementi tenuibus et lineis volventibus minutissimis antrorsum crescentibus reticulata; anfr. 7, conicis, acutè carinatis, ad suturam imbricantibus et subnodulosis: apertura rhomboidea; labro acuto; columellâ callo erecto indutâ Axis, 6+; diam. 4 millim. Inhabits China Seas. W. S.

A curious little shell which I was at a loss at first where to place; but, on the whole, do not hesitate to place it under this genus.

**SIGARETUS LUCIDUS.** *T. parvula*, depressa, candida, tenuis, lineis incrementi et striis volventibus reticulata; anfr. 3+, apice e margine remoto, regione umbilicali concavo, calloso, minutè perforato; apertura e tribus duas partes faciei ventralis amplectente. Long. 10; lat. 7; alt. 2 millim. Taken with the animal in the North China Seas. W. S.

**MARGARITA IANTHINA.** *T. globoso-conica*, teruis, dilutè ianthina, striis crebris volventibus cincta, satis umbilicata, ad peripheriam subangulata; anfr. 6+ ventricosis; suturâ profundâ: apertura rotundata, anticè subangulata; columellâ rectâ, acutâ; fauce margaritaceâ. Axis, 8; diam. 20 millim. Inhabits Arctic Ocean.

Similar in form and size to *L. Schantarica*, Midd., but thinner, more angular, differently colored, and with a much larger umbilicus.

**MARGARITA MUSIVA.** *T. pyramidalis*, margaritacea, crustâ cinereâ fusco tessellatâ induta; anfr. 6, ultimo tricarinato (ceteris bicarinatis); basi convexiusculo polito; umbilico amplo, conico, carinâ plicatâ marginato: apertura circularis; columellâ vix reflexâ, ad carinam umbilicalem terminante. Operculum corneum, lineis incrementi concinnè granulatis. Axis, 6; diam. 5 millim. Inhabits Hong Kong Harbor, in 10 fath., shelly gravel. W. S.

Allied to *M. carinata*, *biangulosa*, &c.

**MARGARITA ARTICULATA.** *T. parva*, globoso-conica, livescens; anfr. 6, rotundatis, ultimo filis circ. 5 (ceteris 3) cinctis, juxtâ suturam excavatis; filis coloribus pallidis et obscurioribus alternantibus articulatis, interspatiis concinnè clathratis; basi nitido concentricè striato; umbilico amplo eleganter plicato: apertura circularis; labro tenui.

Axis, 5; diam. 6 millim. Inhabits Simon's Bay, Cape Good Hope. W. S.

Much like *M. dilecta* A. Ad.

MARGARITA ALBULA. T. parva, tenuis, ovato-turbinata, pallidè grisea, striis volventibus tenuibus insculpta; anfr. 4 citò crescentibus, rotundatis, ad peripheriam obtusis; basi convexo, arcetè perforato: apertura subcircularis; peritremate acuto, ferè continuo. Axis, 5; diam. 8 millim. Inhabits Arctic Seas. W. S.

Much like an overgrown *M. arctica*, but it is covered with an opaque calcareous crust; the suture is less impressed; the umbilicus smaller, and it is everywhere spirally striated.

MARGARITA MUSTELINA. T. minuta, tenuis, globoso-conica, infra concentricè striata, livida albo propè suturam parcè strigata; anfr. 4 ventricosi; peripheriâ obtusè angulatâ; basi rotundato latè perforato: apertura ovata; columellâ tenui, arcuatâ. Diam. 4; axis, 3+ millim. Inhabits Hakodadi Bay, at low water. W. S.

MARGARITA LENTICULA. T. minuta, depressa, lenticularis, concavo-convexa, lactea, striis tenuissimis ordinatis cincta; anfr. 4 declivibus, propè suturam excavatis; areâ umbilicali lirâ in labro desinente cinctâ: obliquè et arcetè perforata: apertura rotundata quodammodo transversa; columellâ cylindricâ umbilico obviâ. Axis, 3; diam. 5 millim. Sea shore, Loo Choo. W. S.

This pretty, depressed species may very likely belong to a distinct genus; but I find no other one which will better receive it.

MARGARITA PINTADO. T. parva, ovato-globosa, depressa, tenuis, cinerea; anfr. 5 ventricosi juxta suturam planulatis, liris 5 volventibus fusco et albo articulatis cinctis; basi rotundato, latè perforato, concentricè sulcato et articulo: apertura rotundato-ovata; labro tenui; columellâ incrassatâ, nacreâ, anticè cuspidatâ. Axis, 4; diam. 5 millim. Inhabits Simon's Bay, Cape Good Hope, 12 fathoms, sandy. W. S.

Characters in many respects like those of *Monilea*, rather than of *Margarita*.

GEN. MONILEA. Ommatophori externi, liberi; tubus analis ex angulo postico aperturâ protrusus; lobî cervicales valdè fimbriati; solea elongata, lanceolata, anguli anteriores valdè protracti; cirrhi laterales utrimque quinque quorum postici multò breviores.

These characters are drawn from *M. nuclese* Phil. and have not before been given, the genus having been established upon the shell alone.

MONILEA APICINA. T. parva, ovato-conica, tenuis, filis numerosis subequalibus cincta; apice et flammulis sparsis radiantibus rosaceis; anfr. 5 convexiusculis ad peripheriam obtusis; suturâ profundâ; basi

convexo, lineis incrementi nonnihil granulatis; umbilico minuto, costâ callosâ marginali et alterâ interiori cincto: apertura ferè circularis. Axis, 5; diam. 6 millim. Inhabits Port Jackson. W. S.

*MONILEA VERNICOSA.* T. parva, tenuis, depressa, orbicularis, nitida, minutissime reticulata, virescens strigis saturatioribus ad suturam et ad peripheriam quadratim dilatatis et supernè cingulis 4 albo articulatis picta; anfr. 5 convexis ad peripheriam subacutis; suturâ profundâ; basi convexo; umbilico profundo pallido intus excavato et plicato: apertura ampla; columellâ expansâ, anticè angulatâ, extus dentatâ. Axis, 4; diam. 6 millim. Inhabits Ousima. W. S.

*MONILEA NANA.* T. minuta, solida, ovato-globosa, albida; anfr. 4 ad suturam plicatis, ultimis liris granulosis 2-3 cinctis; apice obtuso levigato; basi convexo, concinnè striato; umbilico satis magno, plicato-crenulato: apertura circularis; labro crasso; columellâ tenui, anticè dilatatâ. Diam. 2+ millim. Inhabits China Coral Seas. W. S.

*MONILEA INEPTA.* T. minuta, solida, ovato-conica, filis (quorum singulo eminentiore) articulatis rosaceis vel argillaceis cincta, intervallis pallidioribus, regione suturali tessellato; anfr. 4+ convexis; apice obtuso; basi convexo; umbilico modico, plicato, albedo cincto: apertura circularis; labro simplici, crasso; columellâ æquabili. Diam. 3 millim. Inhabits Kagosima Bay. W. S.

*MONILEA GLAREOSA.* T. parva, solida, ovato-globosa, cinerea flammulis radiantibus fusciscentibus variegata; anfr. 5 ventricosus, apicalibus plicato-granulosus, ceteris liris frequentibus, quorum 3-4 majoribus interdum subdivisis cinctis; basi rotundato; umbilico modico, ad marginem plicato-crenato: apertura circularis; labro incrassato, simplici. Diam. 5 millim. Inhabits Loo Choo, Ousima and Kikaia; under surf-washed stones. W. S.

*MONILEA SPURIA.* T. parva, rudis, crassa, depressa, orbicularis, albida; anfr. 4, supernis simplicibus, alteris liris 4 elevatis et lineis incrementi decussatis, ultimo ad peripheriam obtuso; basi convexo; umbilico amplo, profundo, scalariformi: apertura circularis; columellâ tenui; labro anticè dilatato. Diam. 5; axis, 4 millim. Inhabits Simon's Bay; low-water mark, under stones. W. S.

*ETHALIA RUFULA.* T. parvula, lenticularis, polita, nitida, maculis subquadratis ad peripheriam et propè suturam, et lineis angulatis rufis ornata; anfr. 6 convexiusculis, ubique sulcis angularibus remotis cinctis; suturâ profundâ; basi ferrugineo reticulato; umbilico lato, scalariformi, margine decoloratâ: apertura angulata; callo columellari tenui, umbilicum haud longe ambiente. Axis, 4; diam. 6 millim. Inhabits Ousima. W. S.

*ETHALIA CAPILLATA.* T. parva, lenticularis, levis, nitida, viridans

vel fulvescens lineis tenuibus angulatis gregatim intersecantibus et strigis radiantibus ornata; anfr. 6 planulatis ad peripheriam acutis; suturâ vix impressâ; basi convexo radiatim plicato; umbilico parvo, callo pallido deinde fossâ ferrugineâ cincto: apertura parva, rhomboidea; labro acuto; columellâ callo linguiformi umbilicum subtegente instructâ. Axis, 4+; diam. 8 millim. Coast of China, 23° 30' N. in 25 fathoms, sandy. W. S.

**ROTELLA SUPERBA.** T. magna, solida, depresso-conica, nitida, fusco-viridis; anfr. 7, apicalibus integris, ceteris 4-sulcatis, interspatiis lineis albidis tessellatis; basi convexo, albido vittâ viridi articulatâ ornato, callo copioso impleto nunc rubino nunc pudorino tincto: apertura rotundato-ovata; columellâ incrassatâ. Axis, 15; diam. 20 millim. Found dead on the shore, Kagosima Bay. W. S.

**CLANCULUS JUCUNDUS.** T. parvula, depressa, ovato-conica, ochracea vel rufescens; anfr. 5 convexis propè suturam tessellatis interdum omninò strigatis, liris inequalibus cinctis ad anfr. majores gemmatis; suturâ canaliculatâ; basi rotundato; umbilico crenulato; dente columellari eminente, acuto; labro intus sulcato. Axis and diam. 5 millim. Inhabits Sydney, N. S. W.

About the size of *C. minor*.

**DILOMA NANA.** T. minuta, fusca, ovato-globosa; anfr. 4 convexis benè discretis, apicali simplici, alteris liris et sulcis angustioribus cinctis, liris ordinatim quasi plicatis; basi rotundato, pallidiori, vix perforato; columellâ acutâ, denticulatâ; labro acuto intus undulato; fauce lividâ. Diam. 5 millim. Inhabits Loo Choo. W. S.

**DILOMA VERRUCA.** T. parvula, ovato-conica, dilutè rosacea; anfr. 4 convexis suturâ canaliculatâ sejunctis, liris binis elevatis cinctis, tribus minoribus anticè, duobus posticè, additis, lamellis incrementi decussantibus, ad decussationes dilatatis; basi convexo arcuè perforato; dente columellari parvo; labro crenulato, intus sulcato. Axis, 4; diam. 3 millim. Inhabits Coral Seas, China. W. S.

**ELENCHUS OCELLATUS.** T. parva, elevata, ovato-conica, polita, posticè ex rufo virescens, anticè rubescens, lineis volventibus pallidis rufomarginatis circ. 4 et lineis flexuosis obliquis ornata; anfr. 7 vix convexis, punctis albis circ. 6 cinctis, ultimo ad peripheriam obtusè angulato; basi convexo: apertura ovata intus virescens; columellâ pallidâ, dente obsoleto albido instructâ. Axis, 12; diam. 7 millim. Inhabits Sydney, N. S. W. W. S.

Allied to *E. minor*.

**ELENCHUS EXIGUUS.** T. minuta, levis, ovato-conica, acuta, flavida rosacea vel fulvida plus minusve lineis flexuosis saturatioribus vel vittis articulatis ornata; anfr. 5 ventricosis: apertura rotundato-



ovata; columellâ planatâ, decoloratâ, dente acuto deflecto munitâ. Axis, 2; diam. 1.5 millim. Inhabits Port Jackson.

*CANTHARIDUS LINEOLARIS*. T. elevato-conica, perforata, aureo-viridis lineis angulatis luteis propè suturam dilatatis ibi nigro maculatis, striis incrementi et striis volventibus subtilissimis reticulata; anfr. 7 planulatis, ultimo angulato: apertura parva, subtriangularis. Axis, 7; diam. 4 millim. Found at Sydney, N. S. W. W. S.

*EUTROPIA MODESTA*. T. parva, ovato-conica, glabra, lutescens fasciis obscuris articulatis et maculis fuscis ad suturas et ad basim ornata; anfr. 6 ventricosus: apertura rotundato-ovata; columellâ pallidâ vix incrassatâ. Axis, 10; diam. 6 millim. Inhabits Loo Choo. W. S.

*BANKIVIA LUGUBRIS*. T. parva, ovato-turrita, glabra, rubida, lineis inequalibus saturatoribus cincta; apice pallido; anfr. 8 ventricosus: apertura subcircularis, trientem longitudinis testæ adequans; columellâ tenui, albâ, aretissimè perforatâ; labro acuto pallido, intus rufò submarginato. Axis, 12; diam. 6 millim. Inhabits Sydney, N. S. W. W. S.

Most nearly allied to *B. major*.

*ZIZIPHINUS RUBIDUS*. T. acutè conica, solida, nitida, aurantiaca flammulis saturatoribus flexuosis radiantibus variegata; anfr. 7 imbricantibus, sulcis tribus reclinantibus aratis; peripheriâ obtusâ; basi planulato, imperforato, striis concentricis insculpto: apertura subquadrata; columellâ brevî, porcellanâ, anticè attenuatâ; fauce argillaceâ, levi. Axis, 15; diam. 12 millim. Habitat —?

*ZIZIPHINUS INFUSCATUS*. T. parva, conica, albida maculis fuscis subquadratis picta; anfr. 8, seriebus 7 granularum (minoribus sæpè additis) quarum suturali et periphericâ subquadratis et plerumque tessellatis; basi convexo, filis 8 concentricis, radiatim clathratis insculpto; regione umbilicali excavato, imperforato: apertura subquadrata ad columellam angulata; columellâ posticè rotundatâ, anticè obsoletè dentatâ; fauce margaritaceâ. Axis, 10; diam. 9 millim. Inhabits Kagosima Bay. W. S.

Possibly may be the young of *Z. pyramis*; also like *Z. millegranus*.

*ZIZIPHINUS ACUTUS*. T. minuta, acutè conica, prasina rosaceo et albo variegata, striis tenuibus volventibus impressa, interspatiis concinnè clathratis; anfr. 8 subconcavis anticè dilatatione interdum duplici etiam noduloso munitis; basi convexiusculo, regione umbilicali rosaceo, vix perforato: apertura subquadrata. Axis, 4; diam. 3 millim. Inhabits Eastern Coral Seas. W. S.

*ZIZIPHINUS URBANUS*. T. parva, ovato-conica, cinerea, ad suturam et ad peripheriam maculis quadratis pallidis et fuscis seriatim articulatis ornata, liris ordinatis simplicibus ad 6 (interdum nonnullis tenui-

oribus) cineta, interspatiis exiliter clathratis; anfr. 7 convexis; peripheriâ obtusâ; basi concavo; umbilico modico, costâ marginato: apertura subcircularis; columellâ arcuatâ, margine erecto. Axis, 6; diam. 5 millim. Inhabits Kagosima Bay. W. S.

**POLYDONTA (Infundibulum) LACERTINUM.** T. depresso-conica, cinerea olivaceo variegata; anfr. 10 sub-concavis supernis seriatim granulosis et ad suturam inconspicuam subcrenulatis, ultimo imprimis granulis compressis obliquis seriatim cincto, tunc serie minori, deinde duobus remotioribus medianis, postea serie minori, denique ad peripheriam duobus majoribus; basi vix convexo, liris granulosis fusco maculatis inculpto; umbilico lato, polito, nacreo; columellâ lobatâ, flexuosâ; fauce margaritaceâ: apertura dolabriformis; labro acuto. Diam. et axis, 25 millim. Inhabits Hong Kong Harbor. W. S.

Resembles *P. Hanleyanus* Rv. but has fewer series of granules, and is granular beneath.

**POLYDONTA (Infundibulum) GLORIOSUM.** T. depresso-conica, solida, straminea flammulis rosaceis alternantibus picta; anfr. 8, posticè seriebus tribus granularum et anticè nodulis elongatis compressis circ. 16 ornatis; basi complanato, stellato, liris 6 granulatis fusco articulatis inculpto; infundibulo albo polito costis duabus cincto; columellâ edentatâ; fauce margaritaceâ, tricostatâ. Axis et diam. 30 millim. Inhabits Japan. W. S.

**CHLOROSTOMA RUGATUM.** T. solida, depressa, ovato-conica, fusconigra, striis incrementi lamellosis; anfr. 6 admodum convexis, posticis transversim striatis, anticis plicis ad suturam tuberculosus in undulas obliquas divaricantes desinentibus ornatis; basi convexo, spiraliter striato, regione umbilicali impresso, imperforato, albido; dente columellari acuto: apertura magna, rotundata; fauce argentatâ. Diameters about one inch. Inhabits Hakodadi Bay and Simoda. W. S.

Closely allied to *C. nigerrima*.

**CHLOROSTOMA ACHATES.** T. pyramidalis ad peripheriam acutè angulata, levis vel striis incrementi solum inculpta, ex olivaceo cinerascens; anfr. 5 supernis undulatis, ultimo expanso, concavo; basi concavo, polito, olivaceo lincis albidis radiato, latè et profundè perforato: apertura magna; labro acuto secundum peripheriam valdè prolongato; columellâ subdentatâ. Diam. 1.75, poll.; axis, 1.50 poll. Inhabits Simoda. W. S.

The peculiar agate-striped base is quite characteristic.

**CHLOROSTOMA UNDATELLA.** T. parva, depressa, ovato-conica, nitidula, nigra, striis tenuibus volventibus et plicis acutis obliquis divaricantibus ornata; anfr. 6 convexiusculis ad peripheriam angulatis; basi convexiusculo, latè perforato (interdum ferè clauso); columellâ dentatâ. albâ; labro acuto, nigro cretaceo submarginato; fauce

iridescente. Diam. 15; axis, 10 millim. Inhabits Ousima, Kagosima, and Taneogesima, on surf-washed rocks at low-water mark. W. S.

**MONODONTA GLABRATUM.** T. globoso-conica, crassa, polita, fusco-viridis, interdum ad verticem nigrescens et ad peripheriam pallidior, ubique sulcis 4-5 cineta, interspatiis tessellatim sulcatis; anfr. 7 convexis: apertura ampla, rotundato-ovata, alba; labro intus sulcato; dente columellari acuto, sulcato. Axis, 15; diam. 13 millim. China Seas. W. S.

Has a general resemblance to, and may be a variety of, *M. tuberculata*: but its rubbed look, tessellated rather than papillated surface, and shorter axis distinguish it.

**GIBBULA FUCATA.** T. parva, orbicularis, depressa, supra levis, infra concentricè striata, livido-cinerea strigis rubris vel fuscis saturatiori marginatis ad peripheriam angulatis et subtus interdum tessellatis variegata, sub crustâ calcareâ iridescens; anfr. 5 declivibus; suturâ conspicuâ; basi arcuissimè perforato: apertura ampla, ovata; columellâ arcuatâ, subreflexâ. Diam. 7; axis, 5 millim. Inhabits — ?

**GIBBULA REDIMITA.** T. parva, ovato-conica, ventricosa, tenuis, sub crustâ calcareâ argentata, liris remotis planulatis (ad spiram 5) cineta, pallidè incarnata, liris rufo et albo articulatis; anfr. 7 ventricosi, tabulatis; basi rotundato, vix fissurato: apertura rotundato-ovata; columellâ tenui, erectâ, posticè dilatatâ, anticè planulatâ. Axis, 7; diam. 6 millim. Inhabits Hakodadi Bay. W. S.

Like *G. nivosa* A. Ad., but that species is not granulate.

**GIBBULA MUSIVA.** T. parva, ovato-globosa, tenuis, liris transversis ubique cineta, lutea nigro ordinatim tessellata; anfr. 5 convexis; basi imperforato (junioribus exceptis): apertura rotundato-ovata; columellâ incrassatâ anticè subdentatâ; fauce nacreâ, sulcatâ. Diam. 6 millim. Inhabits Simon's Bay. W. S.

The animal has a bilobed head, the lateral mantle without lobes behind the slight emargination which forms the anterior lobe.

**GIBBULA LOCULOSA.** T. parva, globoso-conica, depressa, sub-tenuis, rosaceo, fusco etc. et strigis radiantibus flavidis variegata; anfr. 5 ventricosi, liris 5 et filis minoribus 1-3 ad interspatia exiliter clathrata cinetis; liris levibus, coloribus articulatis; suturâ profundâ; basi rotundato concentricè arato; regione umbilicali pallido arcuè perforato: apertura rotundato-ovata; fauce margaritaceâ, sulcatâ. Axis, 6; diam. 7 millim. Inhabits False Bay, Cape Good Hope. W. S.

Animal with the lateral lobes smooth-edged; four pairs of lateral cirrhi not very long, the third pair very short.

**GIBBULA GAUDIOSA.** T. parva, ovato-globosa, sub crustâ cretaceâ margaritacea, supernè rosacea alibi strigis radiantibus rubris, rufis et

flavidis ornata; anfr. 5 filis circ. 5, minoribus interpositis, cinctis; basi rosaceo sæpè flavido tessellato, concentricè striato, regione umbilicali calloso plerumque imperforato: apertura rotundato-ovata; labro tenui versus columellam ampliato; fauce nacreâ, sulcatâ. Diam. 6 millim. Inhabits False Bay. W. S.

One specimen is beautifully tessellated on the ridges with brown, roseate, blue, golden-yellow, white, and cream color.

GIBBULA LEPIDA. T. parva, globoso-lenticularis, levis, murina; vittâ peripherali et vittâ suturali nigris albo tessellatis picta; anfr. 5; suturâ vix impressâ; basi convexo, striis concentricis et maculis albidis ornato; regione umbilicali excavato, callo induto: apertura parva, obliqua; columellâ acutâ, anticè dentatâ; labro acuto; fauce margaritaceâ, sulcatâ. Diam. 5; axis, 4 millim. Inhabits New Ireland. W. S.

Somewhat like *G. spilota*.

GIBBULA FULGENS. T. parva, globoso-conica, subtenuis, sub epidermide tenui fuscescente vividè iridescens; anfr. 5, costis 4-5 fusco et rosaceo articulatis cinctis; suturâ obviâ; basi convexo, costulis benè dispositis sculpto, arcuè perforato; columellâ arcuatâ, expansâ, erectâ; fauce deauratâ vividè iridescente. Operculum corneum multispirale. Diam. 7 millim.

COLLONIA LENTICULA. T. minuta, solida, alba, globoso-lenticularis, ubique striis confertis tenuissimis cincta; anfr. 4 depresso-convexis citò crescentibus; basi convexo, imperforato, callo copioso munito: apertura parva, circularis. Diam. 4; axis, 2 millim. Inhabits China Coral Seas. W. S.

COLLONIA QUANTILLA. T. minuta, solida, depresso-orbicularis, rosacea sulcis pallidioribus circ. 4 cincta; anfr. 4 vix convexis, peripheriâ obtusâ; basi convexo, pallidiore, arcuè perforato: apertura circularis; labro crasso; columellâ robustâ declivi. Diam. 3; axis, 2+ millim. Inhabits Simon's Bay. W. S.

TURBO AMUSSITATUS. T. globoso-conica, crassa, rufa; anfr. 6 ventricosis, costis inequalibus irregularibus 6-8 et intermedianis exilibus 4-5 cinctis, costis obliquè striatis; basi concinnè reticulato, perforato tandem callo ocluso: apertura subcircularis; columellâ expansâ duplici; fauce margaritaceâ. Operculum osseum, paucispirale. Axes, 12 millim. Inhabits —? ?

TURBO NOCTURNUS. T. parvula, globoso-conica, solida, rufo-fuscescens et rosaceo alternatim strigata; apice albo; anfr. 5 convexis, sulcis equalibus aratis; suturâ impressâ; basi convexo, imperforato, concentricè striato: apertura subcircularis; columellâ expansâ, argentatâ, granulatâ, extus erectâ. Operculum osseum,



paucispirale, apice excentrico, extus granulato. Axes, 7 millim. Inhabits Simoda. W. S.

*CHÆNA LAGENULA.* T. elongata, arcuata, tenuis, lactea, posticè quadrangularis, anticè declivis et in rostram protracta; umbonibus ventricosis ad quadrantem anticalem positis; margine dorsali posticè rectâ; marg. ventrali incurvatâ; angulis posticis rotundatis; facie dorsali latè ovato-cuneatâ, posticè citò angustatâ; facie ventrali ovatâ omnino hiante. Long. 12; lat. 6; alt. 3 millim. Inhabits Hong Kong harbor, 10 fathoms, shelly sand. W. S.

Animal like that of *Gastrochæna*; but the mantle envelopes all the anterior portion of the shell, and also the anterior half of the ventral margin.

This shell belonging to the builder of the old *Fistulana lagenula* of Lamarek, has not heretofore been described, though the curious flask-shaped enclosure has been familiar. The shell has the general characters of that of *Fistulana clava* Lk, *Chæna mumia* Gray. Still the ovate, curved form and the sculpture of the shell, and the peculiar, artichoke-like or bulbous structure of the enclosing capsule, made up of successive calcareous cups involving bits of shell and sand, together with the proportions of the animal will, I think, authorize a generic distinction. I would propose, in that case, the name *CUCURBITULA*, which at once expresses the cup-like elements and general gourd-like form.

*THRACIA PUSILLA.* T. minuta, rotundato-ovata, flavescens, anticè latè rotundata, posticè truncata (angulo dorsali recto) concentricè exiliter undulata; umbonibus vix postmedianis; declivitate umbonali angulatâ. Long. 8; alt. 5; lat. 4 millim. Inhabits Simoda. W. S.

A little like *T. myopsis*, Beck, which seems to be the same as *Anat. papyracea* Say.

*THRACIA CULTRATA.* T. parva, alba, tenuissima, ovato-rhomboidæa, ventricosa, intus argentata, anticè semi-elliptica latè rotundata; umbonibus postmedianis acutis; margine dorsali posteriori declivi, extremitate truncatâ, angulo superiori acuto; declivitate umbonali acutâ; margine ventrali vix arcuatâ; apophysi cardinali triangulari (valvâ sinistrâ ignotâ). Long. 8; alt. 6; lat. 4 millim. Inhabits Port Jackson, sandy mud, 8-15 fathoms. W. S.

*THRACIA CONCINNA.* T. parva, alba, transversa, anticè rotundata, posticè truncata, convexiuscula, minutissimè punctata; umbonibus postmedianis, declivitate umbonali angulatâ, valvis magnitudine et convexitate satis discrepantibus: cardo debilis; fissurâ apicali perviâ. Long. 17; alt. 11; lat. 8 millim. Inhabits Kagosima Bay. W. S.

Much like *T. villosiuscula* in outline, but more convex.

*MYODORA FLUCTUOSA.* T. parva, tenuis, albida, umbonibus ferè medianis: valv. dextra convexa, posticè triangularis, apice truncatâ,



undulis concentricis, circ. 20 ad margines haud protractis ornata; (valvâ sinistrâ ignotâ): cardo debilis; dentibus elongatis. Long. 8; alt. 7; lat. 3 millim. Inhabits Kagosima Bay. W. S.

Allied to *M. brevis*, which is larger and more finely ribbed. There is one in the Cuming Coll. much like it.

**LYONSIA VENTRICOSA.** T. ovato-falcata, tenuis, fragilis, lucida, straminea, ventricosa, concentricè exiliter striata et rugis hispidis radiata; umbonibus satis antemedianis; extrem. anticâ rotundatâ; extrem. posticâ angustante ad apicem truncatâ; margine ventrali lentè arcuatâ; cardine valdè debili. Long. 17; alt. 9; lat. 8 millim. Inhabits Hakodadi Bay, 2-6 fathoms, sandy mud. W. S.

Its shorter and less slender form, and its color, distinguish it from *L. Norvegica* and *hyalina*.

**LYONSIA (Pandorina) FLABELLATA.** T. oblongo-ovata, nasica, ventricosa, tenuis, opalina, straminea, exilissimè striata; umbonibus ad trientem anteriorem sitis; extremitate anticâ arcuè rotundatâ; margine dorsali posticâ rectâ; margine ventrali unâ cum extrem. posticâ continuè arcuatâ usque ad angulum superiorem: cardo debilis; sulco ligamentali angusto; paginâ interiori opalinâ. Long. 17; alt. 10; lat. 6 millim. Inhabits Arctic Ocean. W. S.

Very close upon *P. arenosa* Möll., but the striæ are more numerous and delicate.

**NEERA ADUNCA.** T. minuta, alba, globosa, ovato-triangularis, concentricè lirata; umbonibus ferè medianis, elevatis, tumidis; extremitate anticâ globosâ; extrem. posticâ subito angustatâ, triangulari acutâ, deflectâ; margine ventrali concavè arcuatâ. Long. 5; lat. et alt. 4 millim. Inhabits Kagosima Bay, sandy mud, 12-15 fathoms. W. S.

**THEORA LUBRICA.** T. parva, fragilis, pellucida, nitida, straminea, ovato-crescentica, ventricosa, posticè compressa; umbonibus nonnihil antemedianis; extremitate anticâ acutè rotundatâ: extrem. posticâ acutâ; margine ventrali benè arcuatâ; costâ internâ ex umbonibus obliquè antrorsum productâ. Long. 11; alt. 7; lat. 3 millim. Inhabits Hakodadi Bay, very common in mud, 6 fathoms. W. S.

**THEORA NITIDA.** T. tenuis, fragilis, nitida, lucida, alba, elongato-ovata, subfalcata, epidermide stramineâ induta; umbonibus antemedianis; extremitate anticâ rotundatâ; extrem. posticâ acutâ, compressâ, subadscendente; margine dorsali posticâ declivi; margine ventrali arcuatâ: cavositas porcellana, rosaceo tineta, radiatim tenuiter striata. Long. 14; alt. 8; lat. 5 millim. Inhabits Hong Kong harbor.

Possibly *T. fragilis* Hinds, but seems smaller and more slender.

**THEORA OBTUSA.** T. parvula, ovalis, tenuissima, hyalina, equilateralis, utroque extremitate rotundata, tenuissimè radiatim striata;

costă internă gracili, elongată, lacteă. Long. 10; alt. 6; lat. 3 millim.

Only one valve was obtained, evidently more equilateral, thin, and obtuse posteriorly than any described species.

**SAXICAVA FLACCIDA.** *T. tenuis*, subnaerea, multiformis plerumque subquadrata variè distorta, concentricè undulata, epidermide tenui ochraceâ rugosâ induta; umbonibus terminalibus, tumidis; declivitate post-umbonali carinatâ interdum spinulosâ: cavositas subnaerea; cardinis dente valido elongato, uncinato. Long. 20; alt. 13; lat. 10 millim. Inhabits Hong Kong and Simon's Bay. W. S.

The strong cardinal tooth and the semi-pearly structure are altogether unusual for this genus. It would come under *Hiatella* or *Rhomboides*, which are now regarded as variations of *Saxicava*. I cannot distinctly make out a pallial impression. The animal has a byssus. Perhaps these shells have been confounded with *Sax. rugosa*, which is said to come from Cape of Good Hope, China, &c. I am by no means certain that the shells from the two localities which I have had under inspection are the same. Those from the latter locality are certainly much the smallest.

**CRYPTOMYA TRUNCATA.** *T. tenuis*, alba, rotundato-ovata, posticè obliquè truncata; umbonibus submedianis, parvis; valvâ (dextrâ) tumidâ, fastigio acuto ab umbone ad angulum postero-ventralem tendente divisâ; areâ anticâ striis concentricis et posticè striis radiantibus ornatâ; areâ postero-dorsali triangulari eburneâ, sulco radiante partitâ, et striis lamellosis concentricis insculptâ. Long. 18; alt. 13; lat. 10 millim. Inhabits the China Sea, lat. 24° N. W. S.

The cartilage pit is oblong, narrow, somewhat oblique, and nearly appressed against the margin; behind it is a protrusion of the margin almost like a lateral tooth. Only one valve having been examined, the generic place is not fully settled.

**PANOPEA FRAGILIS.** *T. elliptica*, tenuis, fragilis, livido-albida, concentricè undulata; umbonibus submedianis; extremitate anticâ obtusè rotundatâ; extrem. posticâ subtruncatâ; cardine debili; apophysi ligamentali brevi; dente elongato; margine dorsali ad basin dentis fissuratâ. Long. 2; alt. 1, 5; lat. 1 inch. Inhabits Hakodadi Bay. W. S.

Remarkable for its fragile structure and waved surface, like some of the *Thraciæ*, or *Maत्रaceæ*, or still more like *Pholadomya*.

**PANOPEA GENEROSA.** Several specimens were obtained at Awatska Bay, Kamtschatka, which are probably this species; but the beaks are much more anterior, the posterior truncation is much more oblique and in a different direction, and the gape is much less than in the specimen originally described. They have also a double structure, — an inner porcellaneous layer, and a more earthy, some-

what crystalline coat, which extends beyond the first at the margin. This latter crystalline or tessellated structure is very clearly exhibited, and probably obtains in all the species. The variation in outline from the original type was so great that I had named these specimens *P. sagrinata*.

**CORBULA VENUSTA.** *T. parva, solida, albida (vel rosacea) ovato-triangularis, admodum compressa, subæquivalvis, concentricè arata, liris intercurrentibus rotundatis; umbonibus medianis anticè excavatis; extremitate anticâ rotundatâ; extrem. posticâ altiori et latiori, vix truncatâ; margine dorsali arcuata; declivitate umbonali carinatâ. Long. 10; alt. 7; lat. 4 millim. Inhabits Hakodadi Bay, in shelly sand, 5-8 fathoms. W. S.*

Some smaller specimens are proportionally shorter, and have the grooves much more distant, and if seen alone, would be considered a different species.

**CORBULA (Azara) RUSTICA.** *T. parva, ovato-trigonalis, solida, lævis, epidermide tenui rufescente induta; umbonibus submedianis inconspicuis, erosis; valvæ majoris marginibus dorsalibus arcuatis, declivibus; extremitate anticâ rotundatâ; extrem. posticâ obtusè truncatâ; valvâ alterâ graciliori, penitus inclusâ; declivitate umbonali obtusè angulatâ; cardine debili; cavositate cretaceâ. Long. 15; alt. 9; lat. 5 millim. Inhabits Whampoa. W. S.*

Some of the specimens are much more triangular than others.

**SOLECURTUS ABBREVIATUS.** *T. tenuis, elongato-rhomboidea compressa, striis incrementi insculpta, sulco radiante obliquo albido-marginato excepto; umbonibus minimis medianis: margine dorsali anticâ rectâ, declivi; extremitate anticâ obliquè retrorsum truncatâ; angulo dorsali postico declivi; angulo postico ventrali rotundato; margine ventrali incurvatâ. Long. 45; lat. 10; alt. 20 millim. Inhabits Hong Kong. W. S.*

**SOLECURTUS STRIGOSUS.** *T. tenuis, compressa, transversè oblonga, concentricè striata; epidermide flavo-viridi, posticè verticaliter rugosâ; umbonibus minimis ad quadrantem anteriorem sitis; margine dorsali anticâ declivi; extrem. anticâ obliquè retrorsum truncatâ; angulo superiori acuto; extremitate posticâ acutè rotundatâ; margine ventrali incurvatâ; declivitate umbonali obtusè angulatâ. Long. 50; alt. 7; lat. 7 millim. Inhabits Whampoa. W. S.*

**SOLECURTUS DEBILIS.** *T. parva, tenuis, lucida, alba, oblongo-ovalis, compressa, concentricè striolata, striis in medio obliquis, epidermide flavescente tenuissimâ hic illie induta; umbonibus propè trientem longitudinis sitis, posticè excavatis; extrem. anticâ rotundatâ; extrem. posticâ acutiori; margine dorsali posticâ demum declivi; margine ventrali quantulum concavâ. Long. 25; lat. 5; alt. 7 millim. Inhabits Port Lloyd, and Loo Choo Island. Capt. Rodgers.*

**SOLEN STRICTUS.** T. valdè elongata, marginibus ferè parallelis; marg. dorsali lentè declivi; extremitate anticâ obliquè truncatâ; extrem. posticâ quadratâ, angulis rotundatis; epidermide nitidâ, flavido-corneâ, lineâ diagonali inconspicuâ; dente terminali; cavositate incarnatâ. Long. 4.5; alt. 0.7; lat. 0.5 poll. Inhabits Hakodadi Bay. W. S.

General features like *S. corneus* Lk, but much larger, and proportionally more slender.

**SOLEN GRACILIS.** T. tenuis, gracilis, valdè elongata, subeylindrica, vix arcuata, epidermide flavo-virescente nitidâ induta; marginibus parallelis; extrem. anticali obliquè truncatâ, sulco subterminali ferè obsoleto; extrem. posticali obliquè antrorsum truncatâ, angulis rotundatis; dente cardinali terminali, in utraque valvâ singulo. Long. 4.5; alt. 0.6; lat. 0.4 poll. Inhabits Hakodadi, on sandy beaches. W. S.

The nearly straight, proportionally slender form, and very oblique anterior truncation afford obvious characters.

**MACHERA SODALIS.** T. fragilis, compressa, elongato-ovata, purpurascens, epidermide tenui fusco-corneâ induta; umbonibus ad quadrantem anteriorem sitis, conspicuis, acutis; extremitate anticâ latè rotundatâ, retrorsum sensim angustatâ; paginâ interiori purpurascens; costâ cardinali albâ antrorsum inclinatâ et inflecta. Long. 32; lat. 7; alt. 22 millim. Inhabits Hakodadi Bay. W. S.

Greatly resembles *M. costata* Say. It has a more purplish hue, a more shining epidermis; but the principal difference is in the posterior acumination, and the gentle sweep as well as inclination forwards of the internal rib.

**SOLEMYA PUSILLA.** T. fragilis, oblongo-ovalis, vix retrorsum dilatata, epidermide tenui pallidâ sub lente striis confertis radiantibus inculptâ, et radiis fuscis remotis pictâ; extremitatibus rotundatis; margine dorsali rectâ; margine ventrali leniter arcuatâ; umbonibus ad quadrantem anteriorem positis. Long. 12; alt. 5 millim. Inhabits Hakodadi Bay in 5 fathoms, muddy bottom. W. S.

Described from a single, perhaps immature specimen. It is near to *S. velum* Say, though the dorsal margin appears more straight; and if the radiating striæ are constant, it would be a good distinctive character.

**PSAMMOBIA SPATULATA.** T. tenuis, compressa, oblongo-ovata retrorsum angustata et ad extremitatem truncata, anticè rotundata; margine dorsali rectâ; marg. ventrali arcuatâ; umbonibus ad trientem posteriorem locatis, minutis; callo ligamentali elevato, intus suffulto; disco striis concentricis exilibus et striis radiantibus tenuioribus inculpto: color rufescens, lineis saturatioribus radiata, intus hepatica:

cardo debilissimus. Long. 28; alt. 15; lat. 4 millim. Taken off the coast of China, 23° 30' N. in sand, 25 fathoms. W. S.

**PSAMMOBIA TENELLA.** *T. tenuis*, fragilis, alba, pellucida, glabra, elongato-elliptica, vel potius posticè angustior et subtruncata; umbonibus vix postmedianis, acutis; margine dorsali posticâ cristatâ, juxtâ umbonibus emarginatâ; declivitate umbonali conspicuo; extremitate anticâ rotundatâ; margine ventrali lentè arcuatâ. Long. 12; alt. 6; lat. 3 millim. Inhabits Hong Kong Harbor, in 8 fathoms. W. S.

**SEMELE DUPLICATA.** *T. ovato-reniformis*, tenuis, compressa, straminea, laminis erectis plerumque geminatis erectis propè apicem desideratis ornata; umbonibus postmedianis, elevatis; margine dorsali anticâ incurvatâ; marg. posticâ sensim arcuatâ; portione posticâ altiori, acutiori; plicâ submarginali obsoletâ: cardo debilis; dentibus lateralibus approximatis. Long. 20; alt. 16; lat. 6 millim. Inhabits Kagosima Bay, in 6 fathoms, sandy bottom. W. S.

Almost identical in form with *Tellina lyra*, which has a smooth fold and more remote ridges. *S. scabra* Hanley, is similar, but has radiating lines between the ridges. It probably grows larger.

**SEMELE ALVEATA.** *T. subcircularis* admodum convexa, ferè equilateralis, flavida, concentricè laminato-striata; interspatiis radiatim clathratis, radiis laminas haud equitantes; plicâ submarginali conspicuâ; margine dorsali excavatâ; extremitate posticâ subtruncatâ. Cavositas versus umbones flavida. Long. 90; alt. 28; lat. 15 millim. Inhabits Loo Choo. W. S.

Some specimens in the Cuming Coll. are rather more solid.

**ERVILIA BISCULPTA.** *T. crassa*, elongata, ovato-trigonalis, alba vel purpurascens, concentricè sulcata exceptâ areâ postero-dorsali radiatim aratâ; umbonibus purpureis vix antemedianis; extremitate anticâ rotundatâ; extrem. posticâ obliquè truncatâ, angulo postero-ventrali acuto; margine ventrali arcuatâ: cavositas nitida; sinu siphonali angusto, linguiformi. Long. 6; alt. 4; lat. 3 millim. Inhabits Kagosima, in sand, 5 fath. W. S.

The coloration and sculpture is quite pretty and peculiar.

**ERVILIA LIVIDA.** *T. minuta*, tenuis, elongata, ovato-triangularis, anticè rotundata, posticè acuta, rufescens vel rubido obsoletè radiata (intus ejusmodi picta) concentricè striatula; umbonibus vix antemedianis: cardo debilis. Long. 7; alt. 4; lat. 3 millim. Inhabits Kagosima Bay, in sand, 5 fathoms. W. S.

**SCROBICULARIA CADUCA.** *T. parvula*, tenuis, lucida, fragilis, submargaritacea, albida, ovata posticè obliquè truncata, subglobosa, equilateralis, striis concentricis exilibus, quibusdam utroque laminosis notata; declivitate umbonali posticâ angulatâ: cavositas nitida, lineis



lacteis concentricis exhibens. Long. 10; alt. 8; lat. 6 millim. Inhabits Loo Choo. W. S.

The hinge has one large and two small approximated cardinal teeth, with a triangular pit between.

SCROBICULARIA (Capsa) ADUNCA. T. ovato-triangularis, tumida, straminea, striis tenuibus concentricis lamellosis ordinatim insculpta; umbonibus paulum antemedianis, acutis; extremitate anticâ semicirculari; extrem. posticâ triangulari, rostratâ; margine ventrali incurvatâ; margine dorsali excavatâ, levi: cavositas intra lineam pallialem flavescens, extra pallidior: cardo validus. Long. 22; alt. 15; lat. 10 millim. Inhabits Loo Choo. W. S.

Quite remarkable for its sharp, hooked, beak-like posterior extremity. It is closely allied to *Neæra*, and looks much like *Gastrana fragilis*.

TELLINA LUBRICA. T. cuneata, salmonacea, lævis; umbonibus ferè terminalibus, acutis; extremitate anticâ elongato-ovali; extrem. posticâ latè truncatâ; plicâ submarginali inconspicuâ; dente antico laterali remoto, obsoleto; postico brevi, valido. Long. 14; alt. 9; lat. 4 millim. Inhabits Hakodadi Bay, in sandy mud, 6 fath. W. S.

Comes nearest to *T. felix*, which has an acute posterior angle. It also closely resembles *T. fabagella*.

TELLINA EUGLYPTA. T. solida, elongata, ovalis, ex albido flavescens, costis concentricis elevatis remotis ornata, intervallis et paginâ superiori costarum sulcis radiantibus recurvantibus posticè profundis aratis; umbonibus medianis eminentibus; extremitatibus subacutis, posticâ subtruncatâ; margine ventrali posticè flexuosâ. Cavositas polita, nitida. Long. 8; alt. 5; lat. 3 millim. Inhabits — ?

A singular little shell, the generic place of which is somewhat doubtful. Its hinge of two cardinal and two lateral teeth, and its flexuous posterior margin and the deep pallial sinus bring it among the Tellinidæ; while its sculpture, solidity, and symmetry suggest *Corbis*, with which the hinge is not absolutely inconsistent.

MACOMA LUNELLA. T. parvula, alba, lævis, ovato-triangularis, ventricosa; umbonibus postmedianis, acutis; extremitate posticâ semicirculari; margine postero-dorsali citò declivi, extremitate truncatâ; areâ postero-dorsali crassè striatâ; margine postero-ventrali contractâ: cavositas levis, opalina; sinu profundo, rotundato, vix conspicuo; cardinis dentibus pusillis. Long. 10; alt. 8; lat. 6 millim. Inhabits China Seas, lat. 24° N. in 25 fathoms. W. S.

The shell most nearly approaching it is *T. mera* of the American Atlantic shore.

TELLINA (subg. Arcopagia) SACCULARIA. T. parvula, lucida, subglobosa, lactea, concentricè tenuissimè striata; umbonibus postmedi-

anis, rufescentibus eburneo lineatis; extremitate posticâ leviter truncatâ demum subsinuatâ; declivitate umbonali obtuso: cardo satis validus; dentibus lateralibus duobus. Long. 10; alt. 9; lat. 6 millim. Inhabits Loo Choo. W. S.

Very like *T. perula* Gd, and possibly the same. It is less pouched, and destitute of concentric lamellar striæ and the two peculiar white umbonal rays, though there are vermicular opaque markings.

TELLINA (Arcopagia) CRATITIA. *T. tenuis*, livida, compressa, ovato-triangularis, costis acutis reclinantibus ad 30 (minoribus posticè interpositis) radiata, et laminis crebris concentricis reflexis costas equitantes cancellata; umbonibus medianis; marginibus dorsalibus declivibus, subrectis; extremitate posticâ acutè rotundatâ, et plicâ inconspicuâ, umbonali instructâ; margine ventrali arcuatâ, pectinatâ; cavositas nitida, suleulata. Long. 15; alt. 11; lat. 5 millim. Inhabits Loo Choo, sandy bottom, 8 fathoms. W. S.

Analogous to *T. scobinata*, but no species has been described with similar sculpture, which is much like that of *Venus marica*.

LUTRARIA LUCIDA. *T. tenuis*, alba, oblongo-ovata, subfalcata, concentricè undulata; umbonibus ad trientem anteriorem positis, acutis, eminentibus; extremitate anticâ acutè rotundatâ, margine dorsali declivi; marg. posticâ concavâ, compressâ, extremitate truncatâ; declivitate umbonali obtusâ; cavositate porcellanâ; cardine debili. Long. 40; alt. 20; lat. 8 millim. Inhabits Kagosima. W. S.

Remarkable for its thin, lucid, fragile structure. A specimen in Mr. Cuming's Coll. is larger than those collected by the Expedition.

SAXIDOMUS ARATUS. *T. crassa*, exalbida, ovato-quadrata, epidermide tenui rufâ induta, liris profundis reclinantibus concentricis arata; umbonibus ad trientem anteriorem positis; extremitate posticâ subquadrata, obliquè truncatâ, angulis rotundatis, modicè liante; declivitate umbonali obtuso; extrem. anticâ minus elevatâ, rotundatâ, absque lunulâ: cavositas alba, margine simplici: cardo validus, dentibus in utrâque valvâ 4, in v. dextrâ posteriori, in v. sinistrâ anteriori multo majori. Long. 4.5; alt. 3; lat. 2 inches. Inhabits San Francisco.

Smaller than *S. Nuttalli*, the posterior dorsal portion more elevated, the valve more regularly convex, the beaks less prominent, which with the furrows and epidermis give it very distinct characters. *Venus maxima* Phil. cannot be very different from it.

TAPES VERNICOSA. *T. solida*, oblongo-ovata, ventricosa, nitida, supernè levis alibi concentricè sulcato-plicata, fulva flavido maculata et radiis hepaticis interruptis 4 ornata; umbonibus vix antemedianis; lunulâ lanceolatâ; facie dorsali anticâ excavatâ; extremitate anticâ acutè rotundatâ; margine dorsali posticâ subrectâ, extremitate latè rotundatâ, subtruncatâ; marg. ventrali lentè arcuatâ; margine internâ simplici. Long. 3; alt. 2; lat. 1.5 poll. Inhabits Kagosima Bay and off Hakodadi Cape, in coarse sand, 20 fathoms. W. S.

One of the most beautiful of the group, allied to *T. sulcata*, with which it agrees in form and size; it is more brilliantly colored, and the sulci are less general. *T. laterisulca* is differently colored, and the sulci end more abruptly. It is more brilliantly varnished than any other species. The young are nearly destitute of sulci.

**VENUS (Mercenaria) STIMPSONI.** *T. solida*, cinerea, ovato-cordata, satis convexa, laminis erectis concentricis confertis dispositè ornata; umbonibus antemedianis eminentibus, acutis, approximatis; facie dorsali antico concavo; lunulâ profundâ; extremitate anticâ compressâ, rotundatâ; facie dorsali posticâ arcuatâ, declivi, impressâ, nihil nisi striatâ; extremitate posticâ satis acutâ: cardo validus; cavositas et apophysis ligamentalis aurantiaci; sinu siphonali minimè profundo; margine internâ simplici. Long. 3.7; alt. 3.3; lat. 1.7 poll. Inhabits Hakodadi, 6 fathoms. W. S.

A fine species analogous to American Atlantic forms. Resembles *V. mercenaria* and *V. Mortoni*, but is less solid and less ventricose than either, having the white interior and closely laminated exterior of the latter.

**VENUS PUELLULA.** *T. parvula*, subcircularis, ovato-triangularis, solida, straminea rufo bi-vel tri-radiata; umbonibus medianis, eminentibus, purpureis; extremitate anticâ rotundatâ; margine dorsali posticâ angulatâ, rapidè declivi, apice truncato; margine ventrali semicirculari; disco radiis numerosis elevatis et costis compressis alveolato, costis marginem posticam haud attigentibus. Cavositas rufo-purpurea; margine stramineâ, crenulatâ; margine cardinali purpureo-maculatâ. Long. 6; alt. 5; lat. 4 millim. Inhabits Ousima. W. S.

Looks like a miniature specimen of the variety of *V. marica*, figured in Sowerby's Thesaurus f. 110, yet seems in all respects adult.

**CHIONE ROSCIDA.** *T. parva*, elongato-ovata, compressa, glabra, nitida, anticè sulcis concentricis arata; umbonibus vix antemedianis; extremitate anticâ satis acutâ; extrem. posticâ magis rotundatâ; margine ventrali lentè arcuatâ; lunulâ lanceolatâ, depressâ, lineâ impressâ circumscriptâ: color lividus, radiis 2-3 et zonis concentricis incarnatis variegatus; intus ad limbum flavescens; disco incarnato. Long. 13; alt. 9; lat. 5 millim. Inhabits Harbors of Ousima, in sand, 15 fathoms. W. S.

A small, pretty shell of the same type as *C. lilacina*.

**CALLISTA GLANDULA.** *T. tenuis*, albida, ovato-cordiformis, ventricosa, liris confertis concentricis tenuibus insculpta; umbonibus vix antemedianis tumidis; facie dorsali utroque concavo; lunulâ magnâ, malè impressâ; extremitate posticâ altiori, truncatâ; margine ventrali arcuatâ. Long. 25; alt. 21; lat. 19 millim. Inhabits Hong Kong. W. S.

A small inflated species, concentrically striated like *Dosinia*, resembling in form *D. varians* and *limatula*, but quite destitute of coloring.

**CARDILIA GEMMULATA.** T. minuta, solida, alba, quoad altitudinem ovato-triangularis, sub-obliqua, striis concentricis et radiantibus decussantibus elevatis inculpta, intersectionibus nodosis; umbonibus acutis, uncinatis; margine anticâ ferè verticali; marg. posticâ primò rectâ, deindè arcuatâ et in marginem ventralem semicircularem desinente; valvis satis convexis ferè tectiformibus; margine internâ undulato-dentatâ; tabellâ ligamentali ferè obsoletâ. Long. 2; alt. 2.5; lat. 2 millim. Inhabits China Seas. W. S.

This is the third species known, and well distinguished by its sculpture. Only one valve was obtained.

**NUCULINA PRETIOSA.** T. minuta, obliquè ovato-crescentica, polita, nitida, fusco-viridis; apice acuto, curvato; margine dorsali primò rectâ, dein valdè arcuatâ; margine ventrali incurvatâ; extremitate rotundatâ; paginâ interiori virescente; tabellâ cardinali latâ sensim retrorsum angustatâ; denticulis binis subapicalibus, duobus anticalibus, tribus post-apicalibus, laterali elongato, elevato, falcato, albo. Long. 4; lat. 3; alt. 3 millim. Inhabits Simon's Bay, Cape Good Hope. W. S.

This curious shell greatly resembles an apple-seed, and seems to be the only recent species yet obtained. One or more fossils have been found in the Eocene, on which the genus was founded by Deshayes. The lateral tooth is so large, and bridges over the umbonal cavity so peculiarly that a single valve might be taken for a specimen of *Latia*, were it not for the cardinal range of denticles which are like tenon and mortise articulations, and not comblike, as in *Nucula* proper.

**LORIPES ROTATA.** T. solidula, flavescens, orbicularis, subglobosa, striis concentricis irregularibus utrinque plus minusve coalescentibus inculpta; umbonibus medianis parvis; lunulâ profundâ, striis impressis haud remotis inclusâ; margine internâ concinnè crenulatâ; cicatricibus profundis; sulco cardinali elongato; dente cardinali valido; dente laterali postico parvo; antico obsoleto. Diameter 59; lat. 5 millim. Inhabits Loo Choo. W. S.

**GOULDIA DILECTA.** T. minuta, obliqua, rotundato-cordata, subglobosa, alba, polita, anticè admodum concentricè undulata; umbonibus submedianis; margine internâ simplici; sinu palliali obvio. Long. et alt. 4; lat. 2 millim. Inhabits Kagosima. W. S.

The generic characters are well marked, and this is the only species yet known from the Eastern Seas.

**MYSLIA (Felania) USTA.** T. obliquè rotundato-ovata, lenticularis, crassa, concentricè undulata, epidermide piceâ durâ induta; umbonibus vix antemedianis, acutis; lunulâ parva, lanceolatâ; extremitate anticâ

subcirculari; extrem. posticâ acutiori, obliquâ; ligamento conspicuo: cavositas ex albo viridans, costâ ab umbone usque ad cicatricem anteriorem munita; margine interiori simplici; dente laterali antico minimo vel obsoleto. Long. 30; alt. 27; lat. 15 millim. Inhabits Hakodadi Bay, in sandy mud, 8 fath. W. S.

It has the general aspect of *Astarte*, with its thick, dark epidermis, but has the hinge of *Mysia*, subgen. *Felania*.

**MYSIA DOLABRATA.** T. parva, compressa, symmetrica, rotundato-quadrata, flavescent, glabra; umbonibus medianis, parvis, acutis; costâ internâ intra-umbonali exili, posticè submarginali. Long. 10; alt. 10; lat. 4 millim. Inhabits Simon's Bay, Cape Good Hope. W. S.

Generally resembles *Felania Senegalensis*.

**MYSIA FIGLINA.** T. obliquè rotundata, lenticularis, nitida, concentricè striolata, pallidè argillacea; umbonibus acutis vix antemedianis; disco intus calcareo; dentibus cardinalibus validis; costâ intra-umbonali obliquâ, satis conspicuâ. Long. 18; alt. 16; lat. 6 millim. Dredged off the east coast of Japan, lat. 37°, in coarse, black sand, 20 fathoms. W. S.

Has a peculiar argillaceous look which may serve to distinguish it from other species. *M. dolabrata* scarcely differs except in polish, size, and obliquity of beaks.

**MYSIA ABBREVIATA.** T. tenuis, fragilis, straminea, glabra, subglobosa, posticè valdè truncata, supernè compressa; declivitate umbonali angulatâ; anticè rotundatâ; umbonibus medianis, tumidis, acutis; lineis incrementi conspicuis: cavositas cretacea, citrina. Long. 20; alt. 17; lat. 12 millim. Inhabits Hong Kong harbor. W. S.

**MYSIA OBLIQUA.** T. parvula, obliquè rotundato-ovata, lenticularis, flavescent, zonis incrementi raris ornata; umbonibus antemedianis; regione posticâ latiori, rotundatâ; margine ventrali obliquè arcuatâ; costâ internâ umbonali tenuissimâ; cardine debilissimo. Long. 8; alt. 7; lat. 3.5 millim. Inhabits Loo Choo. W. S.

Has no very marked characters, but in general is like a small *M. globularis* Lk. It is more globose than *M. figlina*. It is possibly a very small specimen of *Diplodonta Koreensis* Ad. and Rv.

**LEPTON FIRMATUM.** T. subtrigona, planata, lactea, subdiaphana, glabra; umbonibus medianis, haud eminentibus; margine ventrali ferè rectâ; paginâ inferiore subrugosâ; cicatricibus subrotundis; dentibus curtis, validis. Long. 5+; lat. 2+; alt. 4 millim. Inhabits sand at low water, Simon's Bay. W. S.

In shape like *L. squamosum*, but distinguished by its short, stout teeth. The rugosities are probably caused by a perforating parasite.

**LEPTON CONCENTRICUM.** T. ovato-triangularis, subplana, concentricè concinnè lirata (liris acutis), epidermide subrugosâ marginem




implicante induta; umbonibus postmedianis, acutis; cicatricibus subelongatis; lineâ pallii è margine remotâ; dentibus minimis, laterali-bus utrâque valvâ remotis, ferè obsoletis; valvæ dextræ dente cardinali unico; v. sinistræ dentibus duobus minimis margini contiguïs. Long. 10; lat. 4 —; alt. 7+ millim. Inhabits Sydney harbor. W. S.

This beautiful species is easily known by its minute teeth, concentric sculpture and abundant epidermis. Its shape is unusually unsymmetrical. It not unlikely belongs to a genus not yet established.

**LEPTON LUCIDUM.** T. parva, tenuis, nitida, alba, ovato-quadrata, posticè dilatata, concentricè striolata et obsoletè radiata; umbonibus medianis acutis tumidis; margine dorsali recta; extremitatibus obliquis, angulis ventralibus acutis rotundatis; margine ventrali vix arcuatâ. Long. 9; alt. 6; lat. 3 millim. Inhabits Hong Kong harbor. W. S.

**KELLIA CRENULATA.** T. tenuis, flavescens, trapezoidea, marginibus plerumque rotundatis; margine ventrali rectâ et compressâ; umbonibus ferè medianis, prominentibus; lineis incrementi conspicuis; totâ paginâ interiori rugulosâ, cardinem versus marginibus crenulatis; dente cardinali conspicuo, conico, altero celato fossam ligamenti metiente; dente laterali singulo, curto, hand obvio. Long. 9.5; alt. 6.5; lat. 4+ millim. Inhabits Hong Kong harbor. W. S.

Readily known by its crenulated hinge margin. It has the aspect of *Scintilla*, from which it differs in its teeth and ligament. Only one valve was found.

 This and the five following species plainly belong to the family Kelliadæ; but their precise generic place is less easily decided, and indeed cannot be, without further knowledge of the animals. I have placed them under the old genus *Kellia*, stating in what respects they verge toward later genera. Mr. P. P. Carpenter has for the most part worked out for me these minute bivalves.

**KELLIA BALAUSTINA.** T. minuta, nitida, rotundato-ovata, rubiginosa, subdiaphana, lineis concentricis creberrimis insculpta; umbonibus submedianis, eminentibus; margine ventrali valdè arcuatâ; marginibus cardinalibus rubidis; valvæ alteræ dentibus card. duobus parvis, dentibus lateralibus brevissimis, postico ferè obsoleto; valvæ alteræ dentibus lateralibus curtis, antico obsoleto, dente cardinali unico, valido. Long. 2.5; alt. 2 millim. Inhabits Sydney harbor. W. S.

Three fresh specimens were obtained, resembling *Astarte triangularis*. The lateral teeth are very short, and but from analogy might be described as cardinal.

**KELLIA BULLA.** T. tenuissima, diaphana, ventricosa, elliptica, posticè truncata, lineis incrementi vix conspicuis; umbonibus parum exstantibus; valvæ alteræ dente cardinali debili, subelongato, torto;

dente laterali curto parum elevato; valvæ alteræ —? Long. 8+; lat. 6; alt. 6+ millim. Inhabits Loo Choo. W. S.

Distinguished by the swollen, slightly prominent umbos; teeth short and delicate.

**KELLIA UNDULATA.** T. minuta, tenuis, ovato-quadrata, tumida, concentricè undulato-striata, flavido-rosaceo tineta; umbonibus vix ante-medianis, elevatis; extremitate anticâ acutè rotundatâ; extrem. posticâ latiori, subtruncatâ; margine ventrali lentè arcuatâ, dimidio postico cavositatis vividè miniato. Long. 2; lat. et alt. 1.5 millim. Inhabits Kagosima. W. S.

**KELLIA COMPACTA.** T. equilateralis, subquadrata, epidermide extra marginem productâ benè induta, striis concentricis lamellosis ornata; umbonibus haud eminentibus; marginibus dorsalibus rectis, declivibus; marg. ventrali rectâ: extremitatibus rotundatis; cicatricibus ovalibus; lineâ pallii simplici; valvulæ alteræ dentibus duobus magnis, divergentibus, equalibus; alteræ marginibus dentibus simulantibus, elongatis; fossâ ligamentali amplâ. Long. 6+; lat. 3+; alt. 5 millim. Inhabits —?

Resembles in form *Bornia corbuloides* Phil. The prolonged infolded epidermis brings it in alliance with Lepton; but its hinge is like that of *Pythina* Hinds. A knowledge of the animal can alone remove it definitively from the old genus *Kellia*.

**KELLIA CONVEXA.** T. parva, trigono-elliptica, plus minusve inflata, facie variabilis, striis concentricis confertis notata et epidermide rugosâ inflectâ induta; umbonibus ferè medianis, tumentibus, plus minusve prominentibus; margine ventrali rectâ vel incurvatâ; extremitatibus rotundatis; cicatricibus inconspicuis; ligamento interno ossiculâ firmato. Long. 4+; lat. 1; alt. 3+ millim. Inhabits Simon's Bay, in sand, 12 fathoms. W. S.

The hinge is as in *K. compacta*, but the ossicle at the hinge seems to bring it under *Montacuta*. In young specimens there is a punctate appearance by transmitted light. Its true place must be decided by the animal. It is very variable in outline.

**MONTACUTA DIVARICATA.** T. minuta, tenuis, albida, obliquè ovato-trigonalis, cuneata, convexiuscula, liris tenuibus interdum bifurcatis radiata; umbonibus acutis terminalibus; extrem. posticâ latè truncatâ; portione anticâ semiovali, acutè rotundatâ. Ossiculum anticè quadratum, posticè triangulare truncatum. Inhabits Hakodadi, on the spines of a *Spatangus*. W. S.

This interesting little species is readily distinguished by its very oblique, cuneate form, and radiated surface.

**CRYPTODON SUBRADIATUS.** T. rotundato-elliptica, planata, marginibus rotundatis; umbonibus angustis prominentibus, medianis;

extus lirulis radiantibus subimpressis margines versus conspicuis disco obsoletis; lineis incrementi conspicuis remotis fluctuosis; intus cicatricibus elongatis; lineâ palliali interruptâ, punctatâ; valvæ alteræ dente cardinali subulato, lateralibus subobsoletis; valvæ alteræ — ? Long. 3.75; alt. 3; lat. 2 millim. Inhabits St. Simon's Bay. W. S.

Only one valve was found. The bands of growth are alternately opaque and diaphanous, and the pallial line is broken into dots as in *Lucina* proper.

**CRYPTODON POLYGONIUS.** T. parvula, tenuis, fragilis, lucida, alba, globoso-quadrata, striis incrementi leniter insculpta; umbonibus medianis eminentibus, tumidis; extremitate anticâ acutâ; extrem. posticâ latiori, obliquè truncatâ, angulo postero-ventrali acuto; margine ventrali et margine anticâ continuatim arcuatâ; portione postico angulis binis radiato. Long. 4; alt. 3.5; lat. 3 millim. Inhabits Simon's Bay. Cape Good Hope. W. S.

It is larger, more equal in its diameters, thinner and more angular in front than *C. flexuosus*.

**SCINTILLA THORACICA.** T. parva, tenuis, lucida, nitida, elongata, tumida, subovalis, minutissimè radiatim striata et fasciis concentricis etiam punctis lacteis ornata; umbonibus antemedianis, minutis; extremitate anticâ rotundatâ; extrem. posticâ altiori, obliquè subtruncatâ; limbo tenuissimo; cicatricibus benè impressis. Long. 13; alt. 8; lat. 4 millim. Inhabits Ousima. W. S.

**LUCINA (Myrtea) SEMINULA.** T. minuta, crassa, albida, globoso-triangularis, sulcis et laminis elevatis undulatis subcrenulatis ad extremitatibus ferè spinosis insculpta; umbonibus vix post-medianis; lunulâ cordatâ, profundâ, et posticè foveâ ligamentali lanceolatâ instructis; junctione dorsali antico angulato; ab umbone ad junctionem antero-ventralem striata; extremitate posticâ biangulatâ, sulco ab umbone aream minus insculptam secernente: cardo validus; margine interiori crassâ penitus crenulatâ. Diam. 3 millim. Inhabits Hong Kong harbor. Common in 5-10 fathoms, shell sand. W. S.

Remarkable for its great solidity and the depths of its sculpture.

**LUCINA (Codakia) PARVULA.** T. obliquè ovato-cordiformis, tenuis, flavescens, tumida, concentricè laminato-lirata et radiatim striata, striis utrinque excurvatis et interdum divaricantibus, intersectionibus indentatis; umbonibus elevatis, post-medianis; lunulâ excavatâ; margine internâ exiguè crenulatâ; dente laterali antico obsoleto. Long. 7; alt. 6; lat. 4 millim. Inhabits Port Lloyd, Bonin Island; Loo Choo; Hakodadi, in sand, 6 to 20 fathoms. W. S., and *Captain Rodgers*.

The characters are much the same in *C. obliqua* Rv., a much larger shell. Specimens from Hakodadi are less deeply sculptured, and

perhaps more orbicular; but on the whole the differences are not enough to warrant a separate description.

**YOLDIA OBTUSA.** T. tenuis, glabra, dilutè flavo-virens, transversim ovalis vel potius subcresecentica, tumida; umbonibus parvis ad trientem sitis; extremitate anticâ acutâ; margine dorsali posticâ rectâ demum declivi; extrem. posticâ rotundatâ; margine ventrali valdè arcuatâ; areâ dorsali angustâ haud circumscriptâ; cardine debili, denticulis anticis 20, posticis 24 instructo. Long. 16; alt. 9; lat. 6 millim. Inhabits Hong Kong harbor, in mud, 6-10 fathoms. W. S.

Generally resembles *Y. sapotilla* G. but is less attenuated than any species I have seen.

**NUCULA PARVULA.** T. minuta, flavescens, ovato-cuneata; disco glabro, limbo striis exilibus confertis radiato; umbonibus tumidis, post-medianis; extremitate anticâ acutâ admodum nasutâ; extrem. posticâ rectangulari; margine internâ crenulatâ. Long. 2; lat. 1.5; alt. 1.5 millim. Hong Kong harbor, in 8 fathoms, muddy bottom. W. S.

Allied to *N. nana* Hinds.

**NUCULA (Acila) INSIGNIS.** T. magna, solida, obliquè ovato-triangularis, ventricosa, sulcis e lineâ medianâ divaricantibus interdum propè marginem bifurcatis arata, epidermide olivaceâ induta; umbonibus posticis, ferè terminalibus, conspicuis; extremitate posteriori verticali, angulo ventrali obtuso, areâ dorsali depressâ, cristatâ, vallibus acutis circumscriptâ; portione antico ovato: cavositas salmonacea, argentata; denticulis anticis circiter 20; posticis 10. Long. 15; alt. 12; lat. 8 millim. Dredged off the east coast of Japan, lat. 37°, and at Hakodadi. W. S.

The description of *N. mirabilis* Hinds would apply in general to this shell; but in the figure, the postero-ventral junction is more acute angled, and there are angular markings represented at the extremities. In one of our specimens there is a double series of zigzags down the disk.

**LEDA CUSPIDATA.** T. parva, olivacea, concentricè sulcata, pyri-formis, anticè subglobosa, posticè subitò contracta, rostrata; umbonibus paulum antemedianis; areâ dorsali posticâ amplâ, cristatâ, carinis submarginalibus circumscriptâ; dentibus cardinalibus anticis 12, posticis 14. Long. 7; alt. 4; lat. 3 millim. Inhabits Hong Kong harbor, in mud, 8 fathoms. W. S.

Approaches nearest to *Leda retusa*.

**MODIOLARIA CUPREA.** T. trapezoidea, ventricosa, tenuis; epidermide ochraceâ; umbonibus obtusis; extremitate anticâ insolitè obtusâ, ferè verticali; margine dorsali lentè arcuatâ, quoad marginem ventralem ferè rectam parallelâ; extrem. posticâ obtusâ; valvis absque

angulis; arcis lateralibus tenuiter et inconspicuè radiatis; arcâ medianâ glabrâ: cavositas margaritacea, limbo cupreo; margine internâ crenulatâ. Long. 7; lat. 4; alt. 4.5 millim. Inhabits Kago-sima Bay. W. S.

An unusually short, quadrate species, and quite distinct in characters, so far as a single, not very fresh specimen can be relied on.

**MODIOLARIA EXPLETA.** T. parvula, elongata, ovato-trapezoidalis, dilutè virens fusco marmorata; umbonibus subterminalibus, acutis; extremitate anticâ acutâ; margine dorsali et marg. ventrali lentè arcuatis vix divergentibus; extrem. posticâ obtusâ; valvis tumidis ubique striis punctatis radiatis, ad aream medianam minus impressis; pagina interior margaritacea, marmorata; margine internâ utrinque crenulatâ. Long. 6; alt. 4; lat. 2 millim. Inhabits Hong Kong harbor. W. S.

The striation of the median area is peculiar to this species, so far as I know, bringing it near to *M. pectinula* G.

**MODIOLARIA VARICOSA.** T. tenuis, compressa, ovato-trapezoidalis, dilutè viridis, lineis fuscis angulatis ornata; umbonibus terminalibus; extremitate anticâ acutâ, marginibus arcuatis divergentibus; extrem. posticâ rotundatâ; arcis lateralibus striis frequentibus radiantibus impressis; arcâ medianâ striis concentricis vel etiam striis radiantibus solum insculptâ: pagina interior naerea lineis angulatis rufis perlucetibus. Long. 9; alt. 6; lat. 2.5 millim. Inhabits Sydney, New South Wales. W. S.

Generally resembling *M. expleta* in form and coloration, but differing in size and the want of striæ in the middle area. It is marked like *M. strigata* Hanley, a larger and less dilated shell.

**MODIOLARIA CUNEATA.** T. obliquè ovato-cuneata, ventricosa, tenuis; epidermide pallidè virente; umbonibus terminalibus exstantibus decurvis; margine dorsali cristatâ, arcuatâ; facie dorsali latâ, declivi; angulo antico-ventrali latè rotundato; margine ventrali aliquid pendente; extrem. posticâ angustè rotundatâ; arcis terminalibus radiatim sulcatis, sulcis quadratis punctatis, anticis 16, posticis 30; arcâ intermediâ concentricè striatâ: pagina interior vinaceo tincta vel marmorata; margine crenulatâ. Long. 12; alt. et lat. 7 millim. Inhabits False Bay, Cape Good Hope, at low-water mark, imbedded in the test of a large Ascidian, sometimes a dozen in an individual; also among rocks, 20 fathoms. W. S.

Very similar to *M. marmorata*, differing chiefly in being of a brownish or rosy color instead of pale green; the umbonal slope is more angular, and the point more acute; the striæ are rather more numerous and more deeply impressed.

**M. ARCUATA.** T. parvula, gracilis, arcuata; margine ventrali in-



curvatâ; fastigio antero-dorsali elevato; umbonibus ad quadrantem anteriorem ventricosus; areis terminalibus concinnè radiato-striatis; areâ medianâ inornatâ. Long. 5; alt. 2 millim. Inhabits Kagosima. W. S.

*M. QUADRULA.* T. subquadrata, marginibus parallelis, ventrali vix incurvatâ; extremitate anticâ rotundatâ; extrem. posticâ obliquè truncatâ; apicibus ferè terminalibus; declivitate postero-dorsali modicè exposito; areis terminalibus radiato-striatis; areâ medianâ inornatâ. Long. 10; alt. 5 millim. Inhabits Kagosima. W. S.

The two latter descriptions are taken from two single valves, quite unusual in form; perhaps accidentally distorted.

*MYTILUS CORUSCUS.* T. pyriformis, margine ligamentali vix arcuatâ; marg. postero-ventrali angulatâ, latè truncatâ; regione byssali lentè incurvatâ; facie anticâ latâ angulo submarginali limitatâ; epidermide crassâ piceâ anticè castaneâ; margine interiori nigrâ: cavositas ad cicatrices ex viridi iricolor argillaceo versus apicem mutata. Long. 65; alt. 38; lat. 25 millim. Inhabits Hakodadi Bay, common on rocks between tide marks. W. S.

A very symmetrical species, quite remarkable for the brilliancy of its interior.

*MYTILUS MUTABILIS.* T. elongata, margine byssali ferè rectâ; marg. dorsali lentè omnino arcuatâ in marginem ventralem continuâ; umbonibus pallidis, acutis, plerumque erosis; valvis versus apicem radiatim sulcatis, sulcis sensim evanescentibus, alibi glabris, epidermide castaneâ nitidâ indutis; facie ventrali concinnè striatâ: cavositas hepatica. Long. 30; alt. 16; lat. 12 millim. Inhabits Kagosima Bay. W. S.

Like *M. trossulus* or small specimens of *M. edulis* in form, but much more elongated. The diverging furrows are quite coarse and obvious in some specimens, and in others obsolete; the fine striation in the neighborhood of the byssus may always be seen.

*SEPTIFER FURCILLATA.* T. parvula, pyriformis; margine ligamentali angulatâ, compressâ; declivitate umbonali elevatâ; facie ligamentali latâ, margine rectâ; sulcis quadratis divergentibus concinnè elathratis insculpta, sulco mediano et sulco subventrali majoribus, ex quibus sulci versus marginem recurvati exoriuntur. Long. 8; lat. et alt. 4 millim. Inhabits China Seas. W. S.

A somewhat worn valve furnishes the above description, which I venture to give because the sculpture is so peculiar. It has the form of *S. Cumingii*, but a much coarser sculpture.

*PECTEN LÆTUS.* T. rotundato-ovata, convexiuscula, vividè rufa; auriculâ parvâ ferè rectangulari; a. alterâ duplo longiori, acutangulari, extremitate arcuatâ; sinu byssali magno; valvæ integræ costis 10-12 majoribus laminas remotas erectas fornicatas gerentibus, 3-4

minoribus plus minusve muriculatis interpositis; v. alteræ costis frequentioribus minoribus squamigeris, costulis muriculatis interpositis; auriculis (nisi areâ ad sinum tendente) radiis numerosis spinulosis munitis; cavositas valvæ integræ rubricata; v. alteræ pallidior, ferè alba. Long. 3.5; alt. 3.75; lat. 1.5 poll. Inhabits Hakodadi Bay, in shelly mud, 10 fath. W. S.

Resembles generally *P. senatorius*, but is more elongated, the small ear longer, and the ribs much less regularly disposed. It is still more like *P. caurinus* G. in which the ribs are angular and more regularly disposed. In old and heavy specimens the scales are worn off; and in some young specimens, too, they are inconspicuous.

**OSTREA RIVULARIS.** T. discoidea, subcircularis, tenuis; valva inferior crassior, purpurascens, costis radiantibus remotis, interruptis, subtubulosis munita; v. superior simplex, rivulis ramosissimis purpurascens venosa: cavositas minimè profunda, ovata, alba cinereo latè marginata; cardine debili. Diam. 60; lat. 10 millim. Inhabits the China Seas, as indicated by shells adhering to it.

The rays of little tubes below, and the veins above, are unusually clear, distinctive characters.

**PLICATULA SIMPLEX.** T. parva, solida, cinerea vel rubida, flabelliformis, symmetrica, quadrantem haud æquans; marginibus rectis, planulatis; costis precipuis 6 et costulis numerosis lateralibus, etiam laminis concentricis numerosis munita. Long. 15; lat. 8 millim. Common at Kagosima Bay and Simoda, 5-20 fath. W. S.

**PLACUNANOMIA UMBONATA.** T. discoidea, talcosa, fragilis, admodum levigata, straminea: valva superior obsoletè radiata, et umbonem submarginalem monstrans; fossâ cardinali minimè profundâ: v. inferioris perforatione acutè-ovato; claviculâ vix dilatatâ, quasi costâ secundum marginem perforationis prolongatâ. Diam. 25; lat. 4 millim. Inhabits Kagosima Bay. W. S.

It most resembles *P. claviculata* from Mazatlan.

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The preceding descriptions were published in the Proceedings of the Boston Society of Natural History, under the following dates, beginning with—

Page 101.	<i>Succinea lauta</i>	- - - - -	Vol. VI.	422.	Feb. 1859.
" 105.	" <i>lyrata</i>	- - - - -	" VII.	40.	June, 1859.
" 110.	<i>Paxillus tantillus</i>	- - - - -	" "	138.	Oct. 1859.
" 115.	<i>Patella grata</i>	- - - - -	" "	161.	Dec. 1859.
" 120.	<i>Terebratula transversa</i>	- - - - -	" "	323.	Sept. 1860.
" 133.	<i>Drillia eborea</i>	- - - - -	" "	337.	Oct. 1860.
" 137.	<i>Mangelia semiassa</i>	- - - - -	" "	382.	Dec. 1860.
" 140.	<i>Turritella gracillima</i>	- - - - -	" "	386.	Jan. 1861.
" 145.	<i>Rissoina villica</i>	- - - - -	" "	401.	Feb. 1861.
" 153.	<i>Tectarius luteus</i>	- - - - -	" VIII.	14.	Mar. 1861.
" 171.	<i>Mysia obliqua</i>	- - - - -	" "	33.	Ap'l, 1861.

# COLLECTANEÆ.

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## DESCRIPTIONS OF SHELLS AND MOLLUSKS,


BY A. A. GOULD.

REPRINTED FROM VARIOUS SCIENTIFIC PERIODICALS, WITH REVISIONS.

Whatever is enclosed in brackets [ ] has been introduced in the reprint.

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### SILLIMAN'S JOURNAL, NEW SERIES.

 Vol. xxxviii. p. 196. Oct. 1839.

**SOLECURTUS NITIDUS.** [*Machaera nitida*, Invert. Mass.] T. oblongo-ovata, utrinque rotundata, inequilateralis; epidermide inflectâ, luteo-virescente, glabrâ, posticè corrugatâ; costâ albâ, dilatante, retrorsum flectente intus munitâ. Long. 3; alt. 2, 7; lat. 1.9 poll.

From the stomachs of codfish caught on the Banks, and occasionally on our shores.

**MACTRA OVALIS.** T. magna, crassa, obovata, subtriangularis, epidermide rudi fusco-viridi transversè corrugatâ induta; umbonibus vix antemedianis; lunulâ curtâ lanceolatâ indistinctâ. Long. 4; alt. 2. 7; lat. 1.9 poll. From the Bank fisheries, in the stomachs of fish; and smaller ones in Boston harbor.

Compared with *M. solidissima* it is smaller, more compressed; the beaks less elevated and more central; the anterior end less elevated; the hinge more delicate; the epidermis rougher and more dusky.

[More recently named *M. ponderosa* by Philippi, because he says the name *ovalis* belongs to a fossil species.]

**BULLA** [*Diaphana*] **DEBILIS.** T. parva, ovata, ventricosa, hyalina; basi truncatâ, sub-umbilicatâ; spirâ retusâ, discoideâ; anfractibus 4,

suprà rotundatis. Long. 0.5; lat. 0.1 poll. Obtained from fishes taken in Massachusetts Bay.

A thin, globular species, resembling *B. diaphana* Mont., which has an elevated spire and no umbilicus.

**BULLA** [*Cylichna*] **OBSTRICTA**. *T. parva*, ovoidea, obstricta, pallida; anfract. 5; spirâ elevatâ, obtusâ; suturâ duplicatâ: apertura anticè dilatata. Long. 0.2; lat. 0.1 poll. Found at Chelsea Beach, Provincetown, New Bedford, &c.

Agrees in general with *B. obtusa* Mont., but the spire is more elevated. It is shorter and smoother than *B. canaliculata*, and has a different suture.

**LIMNEA CHALYBEA**. [Now regarded as a variety of *L. columella* Say.]

**VALVATA PUPOIDEA**. *T. parva*, castanea, elevatâ; anfract. ad 5, ultimâ à precedente disjunctâ. Long. 0.1; lat. 0.075 poll. Inhabits Fresh Pond and elsewhere, on stones and submerged sticks.

**PLANORBIS HIRSUTUS**. *T. discoidea*, utrinque concava; anfractibus 4, lineis hirsutis volventibus insignibus. Lat. 0.2; alt. 0.05 poll. Found adhering to sticks in stagnant water, Dorchester, Dedham, Cambridge, &c.

**NATICA FLAVA**. *T. ventricoso-globosa*, alba, epidermide tenui flavâ induta, imperforata; anfractibus 4: apertura ampla; columellâ flexuosâ. Long. 1; lat. 0.9 poll. Obtained from the stomachs of fishes. Has a striking resemblance in form to *Helix aperta* Born.

**NATICA CANALICULATA**. [Name preoccupied; now regarded as a large form of *N. Helicoides* Johnston, of the north of Europe.]

**LACUNA NERITOIDEA**. *T. ovato-globosa*, tenuis, lævis, epidermide flavescente induta; anfractibus 3 convexis, ultimo magno; spirâ ferè nullâ: apertura obliqua, semilunaris; umbilico amplo, profundo. Long.  $\frac{1}{2}$ ; lat.  $\frac{1}{4}$  poll. Found on the sands, Chelsea Beach.

**FUSUS** [*Trophon*] **SCALARIFORMIS**. *T. fusiformis*, alba vel castanea, longitudinaliter 15–20 lamelloso-costata; caudâ longiusculâ: apertura ampla, spiram equans; fauce castaneâ. Long. 1.75; lat. 0.8 poll. Mostly taken from codfish.

Possibly a very large form of *T. clathratus* of the North of Europe.

**FUSUS TORXATUS**. [I described a shell under this name, believing it to be the true *F. despectus* of Linneus, and because another shell seemed then to be universally received under that name, in Europe. Forbes and Hanley, coinciding with me, have since rectified the synonymy accordingly.]

**BUCCINUM** [*Astyris*] **ROSACEUM**. *T. parva*, alba, rosaceo tineta,

conico-acuta; anfractibus 6 plano-convexis, spiraliter lineolatis: apertura spirâ brevior; columellâ arcuatâ, planulatâ. Long. 0.3; lat. 0.15 poll. From fish caught in Massachusetts Bay.

REPORT ON THE INVERTEBRATA OF MASSACHUSETTS. 8vo. CAMBRIDGE, 1841.

ASTARTE QUADRANS. T. ovato-triangularis, obliqua, compressa, levis, epidermide flavo-olivaceâ induta; umbonibus vix postmedianis erectis, acutis; lunulâ lanceolatâ; intus lactea; margine interiori simplici; dente laterali satis conspicuo. Long. 0.4+; alt. 0.4; lat. 0.1 poll.

From the stomachs of fish in Boston Harbor and elsewhere.

This small, smooth, quadrant-shaped shell, with its evident lateral tooth, is well characterized.

ASTARTE UNDATA. T. elongato-ovata, posticè acuta, inequilateralis, undulis concentricis profundis circiter 15 inculpta, epidermide flavo-viridi induta. Long. 1.3; alt. 0.9. Found occasionally in Massachusetts Bay, but more commonly at the eastward.

[This species was indicated, but not formally described, and has since been recognised by conchologists.]

VENUS [Tapes] FLUCTUOSA. T. ovata, lenticularis, inequilateralis, alba, undulis concentricis reflexis 20-25 disco inculpta, epidermide tenui, nitidâ, stramineâ induta; umbonibus parvis; lunulâ cordatâ, politâ; extremitatibus obtusis. Long. 0.8; alt. 0.6; lat. 0.2 poll. From fishes' stomachs.

[This is evidently a more northern shell. A specimen from the sea of Ochotsk measures an inch and a half in length by an inch in height. It is *V. astartoides* Beck (1849).]

NUCULA [Yoldia] SAPOTILLA. T. elongato-ovata, sub-equilateralis, subrostrata, epidermide flavo-viridi nitidâ induta; margine postero-ventrali flexuosâ; denticulis utroque 16-18. Long. 1.2; alt. 0.8; lat. 0.3 poll. Inhabits Massachusetts Bay generally.

NUCULA [Leda] JACKSONII. T. calcarea, ovata, posticè angustata demum adscendens et truncata, ventricosa, concentricè lirata; umbonibus ad tridentem anteriorem positis; denticulis anticis 15, posticis 20. Long. 1; alt. 0.5+; lat. 0.4 poll. Found at the land-slip at Pride's Bridge, near Portland.

[This is a fossil species, and though it has not as yet been found recent on the Atlantic shores, it is at least very similar to *L. pernula* of the Scandinavian coast.]



**MODIOLA PECTINULA.** T. obovata, ventricosa, convexa, costis rotundatis radiantibus circiter 40 ornata; epidermide cerinâ induta; umbonibus tumidis, sub-terminalibus: cavositas livida; margine interiori crenulatâ. Long. 0.9; alt. 0.6; lat. 0.4 poll. From fishes, St. George's Banks.

[Peculiar in its ventricose form, and its surface entirely covered with conspicuous rounded ribs. Belongs to genus *Modiolaria*.]

**MODIOLA NEXA.** [Undoubtedly the *M. (Modiolaria) nigra* Gray.]

**LIMAX TOGATA** [is *Tebennophorus Caroliniensis* Binney].

**LIMAX TUNICATA** [is *Limax agrestis* Müller].

**HELIX [Helicella] ELECTRINA.** H. testâ parvâ, depressâ, umbilicatâ, tenui, pellucidâ electrinâ; anfractibus quatuor, striatis; apertura rotundatâ; labro simplici. Diameter more than one eighth of an inch. Found in damp open places.

It resembles *H. indentata* above, and *H. arborea* beneath.

**PLANORBIS DILATATUS.** T. minuta, suprâ planulata, infrâ angustè umbilicata; anfractibus tribus, ultimo carinato; suturâ impressâ: apertura ampla, subovata et dilatata. Diam.  $\frac{3}{20}$ ; axis,  $\frac{1}{20}$  poll. From a pool in Hingham.

**VELUTINA [Morvillia J. E. Gray] ZONATA.** T. ovato-semi-orbicularis, depressa, lucida, crustâ calcareâ fusco zonatâ induta; columellâ planulatâ, sulcatâ: apertura ampla ovata. Diam. 0.5; axis, 0.3 poll. Obtained on Chelsea Beach and from fishes' stomachs.

**CINGULA ACULEUS.** T. minuta, sub-cylindrica cornea; anfractibus 6 convexis, striis tenuissimis volventibus cinetis; suturâ profundâ: apertura ovata; basi subperforato. Axis,  $\frac{3}{20}$ ; diam.  $\frac{1}{16}$  poll.; diverg. 23°. On timbers and stones at low-water mark.

**MARGARITA ARGENTATA.** T. minuta, depresso-conica, sub-margaritacea; anfractibus 4 convexis striis confertis volventibus omninò in sculptis; suturâ profundâ; fauce nacreâ, iridescente; basi perforatâ. Axis,  $\frac{1}{10}$ ; diam.  $\frac{1}{8}$  poll. From fishes caught off Cape Ann and Cohasset.

## BOSTON JOURNAL OF NATURAL HISTORY.

☞ Vol. iii. 395, (July, 1840.)

**PUPA PROCERA** [is *P. rupicola* Say].

**PUPA [Vertigo] MILIUM.** T. minutissima, ovalis, castanea; anfractibus quatuor convexis, obliquè striatis: apertura cordata, dentibus sex compressis armata, quorum duobus labio affixis; umbilico profundo. Axis,  $\frac{1}{30}$ ; diam.  $\frac{1}{40}$  poll. Found on fallen leaves, in woods.

A very minute species like *P. vertigo* Drap., which is a reversed shell.

PUPA [Vertigo] SIMPLEX. T. minima, cylindracea, lævis, castanea; apice obtuso; anfractibus sex, sub-planulatis: apertura orbicularis, edentula. Axis,  $\frac{1}{15}$ ; diam.  $\frac{1}{30}$  poll. Found in a grove near Fresh Pond, Cambridge.

Nearly identical with *P. edentula* Drap.

☞ Vol. iv. 356, (April, 1843.)

PUPA SERVILIS [is *P. pellucida* Pfr.].

☞ Vol. iv. No. 1, Jan. 1842, (cover,) and p. 452, Jan. 1844.

HELIX PENICILLATA [is a delicately streaked variety of *H. Cubensis* Pfeif.].

HELICINA GLABRA [is *H. nitida* Pfeif.].

PUPA CARINATA [is a half-grown specimen of *P. rupicola* Say.].

PUPA (Siphonostoma) LITUUS [is *Cylindrella elegans* Pfeif.].

CYCLOSTOMA BICOLOR [is *C. (Megalomastoma) auriculatum* D'Orb.].

CYCLOSTOMA CLATHRATUM [is *C. rugulosum* Pfeif.].

CYCLOSTOMA MAHOGANI [is *C. pictum* Pfeif., *C. sagra* D'Orb.].

CYCLOSTOMA [Cistula] CATENATUM. T. conico-turrita, fulvo-viridescens; anfr. 5 convexis, striis elevatis volventibus fusco-articulatis cinctis: apertura sub-orbicularis, anfractu penultimo disjuncto; peristomate vix reflexo, posticè dentato; operculo albo, calcareo. Long. 0.5; lat. 0.4 poll. Inhabits Cuba, at Sagua la Grande.

Very similar in size, form, and surface to *C. limbiferum*, but the aperture is quite different, having a peculiar notch at the posterior angle of the aperture, and wanting the broad white peristome.


CONUS CASTRENSIS. C. testâ lævi, conicâ, anticè admodum constrictâ; spirâ planulatâ, apice mamillatâ, flammulis radiantibus castaneis notatâ; anfr. 10, suprâ concavis, ultimo colore albo, lineis et maculis angulatis castaneis reticulata; basi castaneâ. Long. 3; lat. 1.5 poll.

[This is the *C. thalassiarcha* Reeve, 1843.]

☞ Vol. iv. 456, (January, 1844.)

STREPTAXIS PETITII. T. obliquè ovato-subglobosa, albido-virescens, arcè umbilicata; anfractibus 7 convexiusculis, apice obtusâ, suprâ striatâ, subtus levigatâ; aperturâ subquadratâ anticè rotundatâ; columellâ dente lamelloso instructâ; peristomate albo, undulato, reflexo, ad angulum posticum attenuato. Axis, 0.4; diam. 0.3 poll. Inhabits Province of Tavoy, Burmah. Rev. Dr. Mason.

Resembles *S. aberrata*, which has a smaller aperture, ringent with teeth and columellar folds.

 Vol. vi. p. 374, (April, 1852.)

**BULIMUS VESICALIS** [SUFFLATUS]. *T. tenuis*, lactea, ovoidea, striatula, vix perforata; spirâ brevî, anfract.  $5\frac{1}{2}$ , ultimo elliptico  $\frac{3}{4}$  longitudinis testæ adequante: apertura dimidiam longitudinis adequans, lunata; labro simplici; columellâ reflexâ. Axis 1.3; diam. 0.7 poll. Inhabits Lower California. *Maj. Rich.*

Form and size of *B. apodemetes* D'Orb. [The name *B. vesicalis* is preoccupied.]

**BULIMUS VEGETUS**. *T. solidula*, elongato-ovata, alba, striatula, perforata; spirâ elevatâ, anfr. 6, ultimo  $\frac{1}{2}$  longitudinis testæ superante, tumido, subgibboso: apertura subovata; labio subcontinuo, reflexo, faucibus stramineis. Axis 1.5; diam. 1 poll. Inhabits San Juan, Gulf of California. *Lieut. Green.*

It has the form of *B. rhodolarynx*. [Mr. Cuming thinks it may be *B. pallidior* Sowb.]

**BULIMUS EXCELSUS**. *T. elongato-ovata*, acuminata, solidiuscula, lævis, fulvida, albido strigata; spira elevata, peracuta, anfr. 7, ultimo  $\frac{2}{3}$  longitudinis vix æquante: apertura trientem long. adequans, subovata; labro albo anticè revoluta; subcontinuo, ad columellam expanso, fissuram latam obtegente. Axis  $1\frac{3}{4}$ ; diam.  $\frac{3}{4}$  poll. Inhabits Lower California. *Maj. Rich.*

Has much the appearance of *B. Lobbii* Rv., from Peru, with the aperture more like *B. pallidior* Sowb.

**ACMÆA** [Nacella] **PALEACEA** [is *Patelloidea depicta* Hinds].

**CREPIDULA EXPLANATA**. *T. unguiformis*, elongata, calcarea, apice terminali: anticè angustata, truncata, denticulo mediano armata; marginibus ex lamellis disjunctis alveolatis; dorso concavo; intus porcellana, lateribus incurvatis; septum dimidiam longitudinis metiens, valdè arcuatum, margine concavo. Long.  $1\frac{1}{4}$ ; lat.  $\frac{1}{2}$ ; alt.  $\frac{1}{3}$  poll. Inhabits Monterey, *Lieut. Green*; Lower California, *Maj. Rich.*

A curious shell, which must have resided in tubes of some sort, probably of those made by *Pholas*. The back is excavated as if done by a gouge. [It may be *C. perforans* Valenc.]

**BULLA** (Akeræ) **CULCITELLA**. *T. subcylindræa*, solidula, albida, spiraliter concinnè striata, epidermide stramineâ induta; anfr. 5, ultimo elongato subfusiformi, anticè rotundato, supernis spiram conicam efformantibus; suturâ profundè canaliculatâ: apertura linearis, antrorsum dilatata; columellâ valdè contortâ, uniplicatâ; labro posticè sensim recedente. Axis 1; diam.  $\frac{1}{4}$  inch. Santa Barbara. *Col. Jewett.*

*B. tenuis* Adams is the only species approaching this. Some of its characters bring it in close alliance with the genus *Tornatina*.

**BULLA** [*Tornatina*] **CEREALIS**. *T. parva*, ovoideo-fusiformis, solidula, eburnea, levigata; spira exserta, tabulata, mamillata; anfr. 4: apertura angusta, antrorsum dilatata, labro ad medium saliente, posticè sensim approximante, et ante suturam coadunato; columellâ callosâ, plicâ validâ instructâ. Axis,  $\frac{1}{5}$ ; diam.  $\frac{1}{12}$  poll. Inhabits Santa Barbara. *Col. Jewett*.

In form and size it is scarcely to be distinguished from *B. gracilis* A. Ad., which is transversely striated. In terms, it agrees with *B. infrequens* C. B. Ad., but Prof. Adams himself considered it a different species.

**PHYSA ELATA**. *T. tenuissima*, ovato-lanceolata, levigata, nitida, dilutè cornea, ad suturam decolorata: spira acuta, anfr. 6 convexiusculis, ultimo  $\frac{2}{3}$  longitudinis testæ equante, anticè angustato: apertura angustata  $\frac{2}{3}$  long. testæ adequans; columellâ vix plicatâ. Axis  $\frac{7}{8}$ ; diam.  $\frac{3}{8}$  poll.; aperturæ long.  $\frac{3}{8}$  poll. Inhabits Lower California. *Maj. Rich.*

Almost as slender as *P. hypnorum*, though much larger, highly polished, and with a very long aperture.

**SIGARETUS DEBILIS**. *T. parva*, tenuis, lucida, depressa, mellea, striis numerosissimis obtusis volventibus, supernis majoribus, insculpta; spira superficiei generali congruens; anfr. duobus; apice ad quadrantem diametris sito; angulo ad peripheriam obtuso, versus aperturam sensim evanido; labio anticè dilatato. Long.  $\frac{7}{8}$ ; lat.  $\frac{1}{2}$ ; alt.  $\frac{1}{5}$  poll. Inhabits La Paz, Gulf of California. *Lieut. Green*.

It has the form of *S. haliotideus*, the size of *S. planus*, and is smooth like *S. levigatus*.

**NARICA** [*Isapis*] **OVOIDEA**. *T. ovoidea*, solida, albida, costis planulatis politis ad 11 cineta, interspatiis duplo angustioribus concinne clathratis; spirâ acutâ, anfr. 4 supernè tabulatis, ultimo magno, ovato: apertura ovata; labro crenulato; columellâ tenui, antrorsum concavâ, plicâ medianâ instructâ; umbilico conspicuo, profundo. Long.  $\frac{7}{10}$ ; lat.  $\frac{3}{10}$  poll. Purchased at Mazatlan. *Col. Jewett*.

**TEREBRA ARGUTA** [is *T. fulgurata* Phil.].

**TROCHUS MARCIDUS**. *T. pyramidalis*, solidula, vix striata, rufo-viridis; anfr. 5 planulatis ad suturam vix discretis: basis subplana, levis, umbilico amplo profundo infundibuliformi, juxtâ aperturam partim tecto: apertura subrhombea, perobliqua: operculum tenue. Axis  $\frac{7}{8}$ ; diam.  $1\frac{1}{2}$  poll. Inhabits Monterey. *Lieut. Green*.

Like *T. Montereyi* Kiener, but the base is plain, the umbilicus broad tunnel-shaped. It also resembles *Chlorostoma maculatum* A. Ad.

**TROCHUS** [*Livona*] **PICOIDES**. [Resembling *T. (Livona) pica*; but I have seen no reason as yet to change my opinion that it is distinct

from it. Its principal distinctions are, a more elevated pyramid, more rounded whorls, less oblique aperture, destitution of undulations on the surface, with generally, revolving cords, more defined and brighter coloration, lip rounded and nacreous, instead of sharp and black. Santa Barbara. *Col. Jewett.*

TROCHUS (Monodonta) PYRIFORMIS [is *Osilinus gallina* Forbes, variety].

MODULUS DORSUOSUS. T. depressa, ovato-conica, solida, calcarea, ad peripheriam acuta et nodulosa, suprâ obscurè undulato-nodosa, infrâ conica, spiraliter inculpta: apertura sub-triangularis, labro acuto intus sulcato; columellâ et dente rosaceis; umbilico parvo, profundo. Diameter half an inch; axis one third of an inch. Found at Acapulco. *Col. Jewett.*

Approaches *M. duplicatus*, which is described as spirally grooved above.

CHEMNITZIA TENUICULA. T. gracillima, lanceolata, nitida, cerina infrâ suturam rufescens; anfr. 10 planulatis, tabulatis, longitudinaliter ad 20-plicatis; striis numerosis volventibus leviter secatis; basi modo spiraliter striatâ: apertura angusta ovata; labro acuto. Axis 0.3; diam. 0.05 poll. Inhabits Santa Barbara. *Col. Jewett.*

May be compared with *C. formosa*, but is less accurately acicular, the posterior whorls increasing more rapidly than the others.

CHEMNITZIA TORQUATA. T. solida, turrata, lactea; anfr. 8 convexiusculis, plicis longitudinalibus flexuosis perobliquis ad 16 ornatis; anfractu ultimo subangulato; basi inornatâ: apertura subovata; labro incrassato. Long. 0.2; lat. 0.05 poll. Obtained at Santa Barbara. *Col. Jewett.*

Formed much like *C. clathrata*, but is smaller, has no revolving lines, and the folds are more oblique.

ODOSTOMIA GRAVIDA. T. ovato-conica, elevata, eburnea, polita; spira acuta; anfr. 6 supra rotundatis, ultimo subangulato  $\frac{2}{3}$  testæ adequate: apertura ovata, anticè rotundata, posticè acuta; labro expanso; plicâ columellari acutâ, transversâ, umbilico parvo suffossâ. Axis  $\frac{1}{4}$ ; diam.  $\frac{1}{10}$  poll. Inhabits Santa Barbara. *Col. Jewett.*

Has most of the characters of *O. conoidea* of Europe, but is proportionally broader.

ODOSTOMIA ACHATES. T. ovato-lanceolata, nitida, longitudinaliter striata, albida, maculis elongatis rubiginosis obscurè zonata; spira acuta, anfr. ad 9 vix convexis, ultimo dimidiam longitud. testæ adequate, basi rotundatâ et striâ unicâ submedianâ cinctâ: apertura angusta, ovata, posticè acuta; columellâ plicâ medianâ et duabus minoribus anterioribus instructâ. Long.  $\frac{1}{2}$ ; lat.  $\frac{3}{20}$  poll. Inhabits Mazatlan. *Col. Jewett.*



Has the aspect of a land shell. It has not only the single fold of *Odostomia*, but at least two others, like *Pyramidella*. It is probably the type of a new genus.

**FUSUS AMBUSTUS.** T. fusiformis, sub-equilateralis, dilutè rufa fusco tincta; spira elongata, acuta, anfr. 8 convexis, subangulatis, liris crebris cinctis, et plicis conspicuis ad 8 ornatis, propè suturam constrictis: apertura parva; rostro subrecto. Axis  $1\frac{1}{2}$ ; diam.  $\frac{3}{4}$  poll. Mazatlan. *Lieut. Green.*

Resembles *F. marmoratus* Phil., from Australia, which is longer and more numerous ribbed; and *F. rostratus*, a smaller shell with remarkably rounded whorls.

**ERATO LEUCOPHLEA.** T. subovata, subfusca, solida, valdè callosa, callo et basi eburneis; anfr. ad 4 subangulatis, ultimo supernè tabulato: apertura angusta, labro anticè excavato, concinnè denticulato. Long.  $\frac{1}{4}$ ; lat.  $\frac{1}{5}$  poll. Inhabits Santa Barbara. *Col. Jewett.*

Like *E. callosa* A. Ad., differing chiefly in color and the finer denticulations of the aperture. Also resembles *E. columbella* Menke.

**CONUS RAVUS.** T. solida, ovoideo-conica, bulbosa, spiraliter argutè striata et anticè liris elevatis alternis majoribus instructa, fulvida, epidermide fuscescente induta: spira elevata; anfr. ad 8 vix excavatis, ultimi angulo rotundato: apertura angusta anticè vix dilatata; labro posticè recedente, intus violacescente. Long.  $1\frac{1}{2}$ ; lat.  $\frac{3}{4}$  poll. From Santa Barbara. *Col. Jewett.*

Has the form of *C. solidus*, *cælebs*, and *mozambicus*, and more especially of *C. fabula* Sowb. It differs in color from all except *C. cælebs*, which is more slender, and has distinct granular striæ.

**CONUS COMPTUS** [is declared to be a rubbed specimen of a young *C. purpurascens* = *C. achatinus* Menke].

**CONUS PUSILLUS.** T. parva, conica, polita, seriebus ad 8 granulorum remotorum anticè cincta: spira planulata; anfr. 8 coronatis constructa; alba maculis obliquis elongatis irregularibus aurantiacis bicincta; apice rufo: apertura angusta, linearis. Axis 0.5; diam. 0.3 poll. Inhabits Mazatlan. *Col. Jewett.*

Allied to *C. sponsalis*, especially in coloring, but is smaller, without convex outline, more elongated, spire much less elevated. Nearly the same remarks apply to *C. nanus*.

**OSTEODESMA NITIDUM.** T. transversa, subfalcata, ventricosa, tenuis, lucida vividè margaritacea, concentricè undulata, plerumque nuda; apice ad trientem anteriorem; extremitate anticâ rotundatâ; extrem. posticâ attenuatâ, truncatâ, subadscendente, utraque extremitate lineis radiantibus remotis striatâ. Long.  $\frac{7}{8}$ ; lat. et alt.  $\frac{3}{8}$  poll. Inhabits Santa Barbara. *Lieut. Green.*

More inequilateral, more recurved, more pearly and free from

striæ than *O. hyalinum*. *O. Floridanum* is more ventricose and much more attenuated.

**DONAX FLEXUOSUS.** *T. triangularis*, cuneata undulato-flexuosa, anticè acuta, areâ posticâ latâ, altâ, subplanulatâ, undique striis exilibus profundis radiantibus insculptâ; apice post-mediano; angulo umbonali posticè carinato; margine ventrali excurvatâ; colore albo vel stramineo, intus interdum posticè violaceo. Long.  $\frac{3}{4}$ ; alt.  $\frac{1}{2}$ ; lat.  $\frac{2}{5}$  poll. Inhabits Santa Barbara. *Col. Jewett*.

**TELLINA TERSA.** *T. modica*, convexiuscula, ovato-triangularis, alba, concentricè vix striata; apice post-mediano; extrem. anticâ rotundatâ, supernè compressâ; extrem. posticâ triangulari, apice sub-acuto; margine dorsali rectâ, cito desinente: dentibus lateralibus obsoletis. Long. 1; alt. 3.7; lat. 0.3 poll. Inhabits Panama. *Col. Jewett*.

Generally resembles *T. lineata* Turt., but is smaller, more compressed, and destitute of lateral teeth. Allied closely to *T. plebeja*, but is more equilateral and quite white.

**TELLINA PURA.** *T. parva*, sub-elliptica, vix inequilateralis, tenuis, lucida, vel zonis lacteis zonata, striis minutissimis radiata; apice acuto; extremitate anticâ semiovali; extrem. posticâ modicè angustatâ, truncatâ, hiantè, plicâ admodum conspicuâ; intus nitida, striis elevatis tenuibus radiata; dentibus lateralibus carentibus. Long. 1; lat. 0.3; alt. 0.6 poll. Inhabits Panama, *Col. Jewett*; San Diego, *Lieut. Green*.

Remarkable for its symmetrical form and great simplicity.

**TELLINA GEMMA.** *T. parva*, inequilateralis, transversa, ovato-triangularis, striis rotundatis, concentricis ordinatis insculpta, rosea, albido vix radiata; extremitate anticâ semiovali, supernè acutè rotundatâ; extrem. posticâ breviori, flexuosâ sub-triangulari; flexurâ valdè acutâ; margine ventrali posticè incurvâ; intus vividè rosacea. Long.  $\frac{3}{5}$ ; alt.  $\frac{3}{10}$ ; lat.  $\frac{2}{5}$  poll. Inhabits San Juan. *Lieut. Green*.

Resembles in form and color *T. distorta* and *T. rhomboidea*, and more especially *T. scalpellum*.

**CYRENA ALTILIS** [is regarded as a variety of *C. Mexicana*].

**VENUS [Trigona] TANTILLUS.** *T. parva*, ovato-trigona, ventricosa, inequilateralis, solidula; levis vel sulculis remotis concentricis arata, alba, posticè fusco tincta; margine dorsali posticâ longiori, rectiusculâ, angulo acuto. Long.  $\frac{1}{4}$ ; alt.  $\frac{1}{6}$  poll. Inhabits Santa Barbara. *Col. Jewett*.

This little Venus reminds one of *V. gemma*, or rather is like a miniature *V. meretrix* in form and coloration.

PROCEEDINGS OF THE BOSTON SOCIETY OF  
NATURAL HISTORY.

☞ Vol. i. 138, October, 1843.

PUPA [*Cylindrella*] PORRECTA. T. gracillimâ, fusiformi, glabrâ, pellucidâ, maculis albis subquadratis obscure tessellatis; anfr. circiter 24, ultimo disjuncto et valdè porrecto; aperturâ campanulatâ, subquadratâ; peristomate albo, reflexo. Axis,  $\frac{3}{5}$ ; diam.  $\frac{7}{100}$  poll. Inhabits Cuba. *J. Bartlett*.

About eight of the whorls are usually broken from the summit.

PUPA LYRATA. T. parva, plerumque sinistrorsa, castanea, latè umbilicata; anfr. 5 convexis, costulis flexuosis ad 20 concinnè clathratis: apertura suborbicularis, campanulata, posticè dentibus duobus lamellosis, in faucibus duobus alteris, armatâ. Long.  $\frac{1}{10}$ ; breadth,  $\frac{1}{20}$  + inch. Found at Maui, Sandwich Islands.

☞ Also published in Journal iv. 452, January, 1844.

Shells received from Rev. Francis Mason, Tavoy, British Burmah.

HELIX PROCUMBENS. T. discoideâ, supra planulatâ, subtus convexâ, epidermide pallidè corneâ, latè umbilicatâ; anfr. quatuor, ultimo deflecto; aperturâ rotundatâ, labro reflexo, albo. Diam.  $\frac{3}{4}$ ; alt.  $\frac{1}{4}$  poll.

Belongs to the group of which *H. planulata* is the type. [Said to be *H. delibrata* Benson, Journ. Asiat. Soc., 1836.]

HELIX INFRENDENS. T. orbiculatâ, depresso-conoideâ, corneo-virescente, subcarinatâ, supra rugosè striatâ, infra glabrâ, nitidâ, regione umbilicali indentatâ; anfr. 7 convexis, suturâ impressâ; aperturâ coarctatâ, labro vix reflexo, dentibus tribus pliciformibus instructâ. Diam.  $\frac{2}{5}$ ; alt.  $\frac{1}{5}$  poll.

Very closely allied to *H. rangiana* Fer.

HELIX (Caracolla) GABATA. T. albido-corneâ, supra planulatâ, infra valdè convexâ, latâ et profundè umbilicatâ; anfr.  $4\frac{1}{2}$ , leviter striatis, ultimo carinâ castaneâ circumdato; aperturâ subquadratâ, labro albo, reflexo. Diam.  $\frac{4}{5}$ ; alt.  $\frac{7}{20}$  poll.

Much like *H. scabriuscula* in form and aperture, but quite different as to surface, color, and umbilicus.

HELIX (Caracolla) RETRORSA. T. orbiculatâ, sinistrorsâ, utrinque convexâ, pallidè castaneâ, arcuè umbilicatâ; anfr. 5, lineis longitudinalibus et volventibus minutè rugosis, ultimo carinato; aperturâ rotundatâ, labro acuto. Lat.  $1\frac{3}{4}$ ; alt. 1 poll.

Young specimens might be confounded with *H. Himalana* Lea, which is much more rounded, the surface smoother, the carina quite indistinct, and the umbilicus smaller.

**HELIX (Caracolla) ANCEPS.** T. lenticulari, pallidè corneâ acutè carinatâ, supra striatâ, subtus nitidâ, vix perforatâ; anfr. 6, suprâ planulatis, suturâ submarginatâ; aperturâ lunulari, labro simplici, angulatâ. Diam.  $\frac{7}{10}$ ; alt.  $\frac{7}{20}$  poll.

In general form, color, and sculpture it resembles *H. acies* Fer., but is much smaller and not umbilicated.

**VITRINA PRÆSTANS.** T. depressâ, fragili, nitidâ, stramineâ; anfr. tribus, striis incrementi et striss volventibus reticulatis; aperturâ subcoarctatâ. Lat.  $\frac{4}{5}$ ; alt.  $\frac{2}{5}$  poll.

The largest species yet described.

**BULIMUS ATRICALLOSUS.** T. solidâ, imperforatâ, oblongo-ovatâ, vix striatâ, sulphureâ; anfr. 7 convexiusculis, ad suturam constrictis; aperturâ lunato-ovali, basi sub-effusâ, labro albo, reflexo, marginibus callo atro junctis. Long.  $2\frac{1}{3}$ ; lat. 1 poll.

Allied to *B. vittatus*, *Dryas*, &c., from Philippine Islands. The colors of the aperture are distributed as in *B. iostoma*.

**CLAUSILIA INSIGNIS.** T. fusiformi, sinistrorsâ, solidâ, castaneâ; anfr. 9 convexis, leviter striatis; aperturâ purpureâ, rotundatâ, lamellis duabus fortibus posticè, quinque tenuibus, per testam apparentibus, intus instructâ; labro valde reflexo. Long. 1; lat.  $\frac{1}{5}$  poll.

Allied to *C. Macarana*, and is the largest and most ponderous species known.

**CYCLOSTOMA PERNOBILIS.** T. depresso-conicâ, apice acutâ, latè umbilicatâ; anfr. 6 subdepressis, striis incrementi conspicuis et striis volventibus rugulosis, ultimo carinâ costali albidâ cincto; aperturâ magnâ, intus cærulescente, labro crasso, expanso, vividè sanguineo: coloribus piceis et lutescentibus supernè variè nubeculatâ; infra albidâ, lineis piceis volventibus interruptâ. Alt. 1; lat. 2 poll.

This superb species closely resembles *C. involvulus* Sowb. [Said to be *C. aurantiaca* Schum., figured by Chemnitz; but it certainly does not agree with his figure, though it does agree with the figure of Küster, pl. 23, fig. 45.]

**CYCLOSTOMA SECTILABRUM.** T. turritâ, spirâ acuminatâ, arcetè umbilicatâ, brunneâ; anfract. 8 sub-ventricosus, vix striatis, penultimo sub-gibbo; aperturâ sub-orbiculari, intus rubescente, peritremate duplici, incrassato, albo, propè angulum posticum canali parvo interruptâ. Alt. 1; lat.  $\frac{2}{5}$  poll.

Resembles *C. altum*, Sowb., but has the fissure of the peritreme on the opposite side. *C. croceum* Sowb., may be a faded specimen of this shell.

**UNIO TAVOYENSIS.** T. rotundatâ, solidâ, sub-equilaterali, fuscâ, posticè dilatatâ, sub-angulatâ; umbonibus elevatis, unâ cum latere

postico corrugatis; dentibus cardinalibus pyramidatis, lateralibus flexuosis: impressionibus musculorum profundis; margaritâ albedo-incarnatâ. Long. 2; alt.  $1\frac{1}{2}$ ; lat.  $\frac{4}{5}$  poll.

Closely allied to *U. corrugata* Lam., which is less rounded and less corrugated.

UNIO CRISPATA. T. ovali-elongatâ, inequilaterali, anticè rotundatâ, posticè subrostratâ, costâque umbonali instructâ; umbonibus parvis; colore virescente, fusco variegatâ; rugis angulatis radiantibus undique crispatâ: intus lividâ; dentibus parvis obtusis. Long.  $1\frac{7}{10}$ ; alt.  $\frac{9}{10}$ ; lat.  $\frac{1}{2}$  poll.

UNIO FOLIACEA. T. parvâ, compressâ, fragili, fusco-virescente, inequilaterali, transversè oblongo-ovatâ, posticè sub-angulatâ; umbonibus parvis, subtilissimè corrugatis; dentibus exilibus, rectis, ad marginem parallelis; margaritâ lividâ, iridescente. Long.  $1\frac{3}{5}$ ; lat.  $\frac{1}{2}$ ; alt.  $\frac{9}{10}$  poll.

Closely allied to *U. Bengalensis* and *Corrianus* Lea.

UNIO EXOLESCENS. T. transverso-oblongatâ, inequilaterali, subcompressâ, fusco-virescente; posticè dilatatâ, sub-biangulatâ; umbonibus sub-elevatis; dentibus cardinalibus parvis, obliquis, interdum exoletis; lateralibus remotis, rectis; margaritâ lividâ vel ferrugineâ. Long.  $2\frac{3}{4}$ ; alt.  $1\frac{1}{4}$ ; lat.  $\frac{3}{5}$  poll.

In form and color resembles some stunted varieties of *U. complanatus*.

PALUDINA DOLIARIS. T. tenui, conico-globosâ, luteo-virescente, arcetissimè umbilicatâ; anfract. 5 ventricosi, striis minutissimis reticulatis, costulis numerosis inequalibus, purpureis, cinetis; aperturâ sub-circulari; columellâ reflexâ, non appressâ, albâ; labiis posticè disjunctis. Long.  $\frac{11}{10}$ ; lat.  $\frac{9}{10}$  poll.

Differs from *P. Burroughiana* and *elongata* in form and aperture; but is nearly allied to *P. subcostata*, Griffith's Cuvier.

PALUDINA PETROSA. T. solidâ, imperforatâ, subglobosâ, apice erosâ, saturatè viridî, rufo fasciatâ; anfract. 3, ultimo amplo, suturâ præcipuè marginatâ; aperturâ semi-circulari, columellâ latè planulatâ, rufescente; intus nigrescente vel holosericea; operculi apice subcentrali, elementis concentricis.

Resembles *Anculotus* or *Littorina*, but its place is determined by the operculum.

MELANIA BATANA. T. turrîtâ, solida, fusco-virescente, apice erosâ, anfract. 6-7, planulatis, posticè sub-coronatis, costulis longitudinalibus et volventibus gemmularum series tres efformantibus; aperturâ angusto-ovatâ, posticè coronatâ, intus cærulescente, columellâ albâ. Long. 1; lat.  $\frac{2}{5}$  poll.

Very closely resembles *M. Hydei* Conrad.

MODIOLA VARICOSA. T. fragili, lucidâ, inequilaterali, transversè



ovato-oblongatâ, sub-falcatâ; colore luteo-viridescente, supra costâ umbonali maculis venosis obliquis notatâ; margaritâ argenteâ, ad umbones purpureâ. Long.  $1\frac{1}{2}$ ; lat.  $\frac{7}{20}$ ; alt.  $\frac{1}{2}$  poll.

A beautiful and delicate shell, which I suspect to be an inhabitant of brackish or even fresh water.

PLANORBIS [Discus] DENTATUS. T. discoideâ, solidulâ, pallidè corneâ, utroque umbilicatâ; anfr. 3 leviter striatis, supra et infra subcarinatis; suturâ profundâ; aperturâ sublunatâ; labro intus callo albo incrassato induto; fauce dentibus sex abditis armatâ. Axis,  $\frac{1}{20}$ ; diam.  $\frac{3}{20}$  poll. Inhabits Cuba. J. Bartlett.

☞ Vol. i. 157, (Dec. 1843.)

Specimens collected by Dr. George A. Perkins, Liberia.

HELIX [Caracolla] PELLUCIDA. T. fragili, pellucidâ, pallidè corneâ, orbiculari, carinatâ, vix perforatâ; spirâ depressâ, sub lente striis subtilissimis decussatâ; infra convexâ, nitidâ: anfractibus 6 subconvexis, externis propè suturam excavatis: aperturâ lunatâ, labro angulato. Lat.  $\frac{1}{20}$ ; alt.  $\frac{1}{2}$  poll.

[This is *H. Africana* Pfr.; Proc. Zool. Soc. 1848; and *H. troglodytes* Morelet, Rev. Zool. 1848, and Journ. Conch. 1850.]

BULIMUS RUBICUNDULUS. T. oblongo-conicâ, tenui, rosaceo-erubescente; anfractibus 7 convexiuseulis, ultimo obsoletè carinato. suturâ marginatâ, albidâ, eleganter crenulatâ; aperturâ ovatâ, columellâ tenui, labro subreflexo, intus sub-incrassato. Long.  $1\frac{1}{2}$ ; lat.  $\frac{7}{10}$  poll.

Allied to *B. Boholensis* Brod., and is colored like some varieties of *B. concinnus* Brod. [It is a variety of the following.]

BULIMUS INTERSTINCTUS. T. ovatâ, apice mamillatâ, imperforatâ, pallidè incarnatâ, striis liturisque purpureis et pallidis hic et illic variegatâ; anfractibus 7 ventricosis, ultimo magno, partem dimidiam spiræ æquante; suturâ marginatâ, albidâ, notissimè crenulatâ: aperturâ parvâ, sub-quadratâ; columellâ rosaceâ, evolvente, posticè sinuatâ; labro acuto, intus callo rosaceo incrassato. Long.  $1\frac{3}{4}$ ; lat.  $\frac{9}{10}$ .

ACHATINA TORRIDA. T. ovoideâ, apice mamillatâ, rufo-castaneâ: anfractibus 7 ventricosis, striatis, ultimo magno, basi deorsum contractâ; suturâ marginatâ, perspicuè crenulatâ; aperturâ parvâ, ovatâ; columellâ albâ, fusco-marginatâ, basi leviter truncatâ; labro simplici, fuscesciente, intus albo, incrassato. Long.  $3\frac{1}{4}$ ; lat.  $1\frac{1}{2}$  poll.

Allied to *A. sauleydyi*, Guérin, a reversed species.

ACHATINA [Subulina] INVOLUTA. T. turritâ, elongatâ, apice mamillatâ, imperforatâ, fuscesciente; anfractibus 12 leviter striatis, quatuor superioribus sub-equalibus, ultimo carinato; suturâ impressâ, minutissimè crenulatâ; aperturâ ovatâ, spirâ partem sextam æquante,

columellâ arcuatâ, involutâ, tubulum efformante. Long.  $1\frac{1}{10}$ ; lat.  $\frac{1}{4}$  poll.

Allied to *A. octona*, *decollata*, &c.

PUPA [Ennea] PUMILIO. T. obovatâ, ventricosâ, sursum acutâ, apice rotundatâ, imperforatâ, albidâ, nitidâ: anfractibus 7 planulatis, leviter striatis, ultimo deorsum attenuato; suturâ lineari; aperturâ parvâ, semi-ellipticâ, lamellâ unicâ posticâ cum labro continuâ, et plicâ umbilicali angulatâ impeditâ; peritremate albo, undulato, leviter et inequaliter reflexo. Long.  $\frac{1}{20}$ ; lat.  $\frac{7}{10}$  poll.

PUPA [Ennea] CAPITATA. T. cylindraceâ, apice rotundatâ, albidâ, imperforatâ; anfractibus planulatis, concinnè obliquè striatis, ultimo deorsum attenuatâ, basi carinatâ, externè et sub suturâ umbilicali indentatâ; suturâ conspicuâ; aperturâ angustâ, protensâ, subovali, basi sub-angulatâ, lamellâ posticâ, alterâ columellari, dentibus quatuor inequalibus, plicaque umbilicali dentiferâ ringente; peritremate candidâ, reflexâ. Long.  $\frac{1}{20}$ ; lat.  $\frac{1}{4}$  poll.

MELANIA MUTANS [is *M. fuscata*, Gmel., which varies greatly in its exterior sculpture].

ANODONTA SALWENIANA. T. trapezoideâ, compressâ, subtenui, retrò dilatatâ, posticè truncatâ, colore piceâ; supra costam umbonalem radiatim plicatâ: umbonibus parum elevatis; margine superiori rectâ, compressâ, ligamentum occultante, ante umbonibus excavatâ; utraque valvâ processu dentiformi cardinali, uno ante altero aptante, instructâ; cavositate minimè profundâ; impressionibus muscularibus minimè impressis; margaritâ sub-lividâ. Long.  $5\frac{1}{2}$ ; lat.  $1\frac{1}{4}$ ; alt.  $2\frac{1}{3}$  poll. River Salwen, British Burmah, Rev. F. Mason.

Resembles small specimens of *Alas. complanata*, but is much less ponderous.

A. INOSULARIS. T. transversè oblongâ, sub-ovatâ, solidâ, subventricosâ, piceâ: umbonibus parum elevatis; margine supra brevi, recto, ad angulum posticum rotundato, posticè subtruncato; infra arcuatâ; utraque valvâ processu cardinali crassâ, dentiformi, instructâ, uno ante altero aptante; margaritâ albidâ; impressione musculari antico profundo. Long. 3; lat.  $1\frac{3}{4}$ ; alt.  $1\frac{1}{8}$  poll. River Salwen, Rev. F. Mason.

Very closely allied to *A. edentula*, Say, but is a more solid shell, and the cardinal apophyses are more elevated and stronger.

☞ Vol. i. 161, May, 1844.

The prominent tooth-like apophyses of these shells, render their position among the genera of Naiades, as now received, somewhat equivocal; uniting, as they do, *Alasmodon* and *Anodon*; and they strengthen the idea entertained by many, that the modifications in

the number, position, or absence of teeth, according to which the genera are now founded, are so gradual as to compel us to regard them as merely sub-genera of one grand genus. [More recent examinations of the structure of the mollusks conclusively show that the natural divisions among the Naiads are numerous.] Should this view be adopted, and to it Dr. G. is much inclined, he believes that another sub-generic group might be instituted, equally as characteristic as any now received; and proposes as follows:—

Subgenus PSEUDODON. Hinge margin with a tooth-like apophysis on each valve, the surface of which is not fractured, but smoothly covered with enamel, fitting into corresponding undulations in the opposite valve, that on the right valve closing in front of that on the left.

*Anod. inoscularis* would be the type of this group, and to it would belong *A. Salweeniana*, *edentula*, *Stewartii*, and perhaps some others. [Perhaps equivalent to *Monocondylaea*, D'Orb.]

HELIX SETIGERA [HYSTRIX]. T. discoidea, parva, tenuis, fusco et luteo tessellata; supra planulata, apice indentata; anfractibus quinis, clathris creberrimis setigeris aliquando denudatis insignibus; subtus late umbilicata; apertura lunata, lamellis duabus internis conspicuis volventibus.

[Diam.  $\frac{1}{5}$ ; axis,  $\frac{1}{10}$  poll. Hab. East Maui, Sandwich Islands. Like *H. dædalea* and *H. contorta* in form and coloration, but larger than either, and further distinguished by the fewer lamellæ and the long coarse hairs which it bears. The name first given was preoccupied, and one suggested by Dr. Mighels is substituted.]

HELIX STELLULA. T. parva, discoidea, supra planulata, subtus convexa, utroque umbilicata, fusca interdum luteo maculata; anfractibus quatuor triquetris, costibus frequentibus elevatis, acutis, ad peripheriam carinatum stellatis: apertura rhomboidea, lamellâ unicâ internâ, elevatâ, volvente instructa; labro simplici.

[Diam.  $\frac{1}{5}$ ; axis,  $\frac{1}{12}$  poll. Hab. Maui, Sandwich Islands. Distinguished by its angular whorls and very prominent ridges, which project at the periphery so as to resemble the rowel of a spur.]

Vol. ii. 26, (January, 1845.)

ACHATINA ADUSTA. T. turrata, imperforata, solida, fusco-nigricans sursum pallescens; apice pyramidatâ; anfr. 7 convexis, leviter striatis, ultimo subcarinato: apertura ovalis, intus opalina; labro simplici, acuto, nigro; columellâ eburneâ, anticæ in dentem productâ. Long.  $1\frac{1}{2}$ ; lat.  $\frac{3}{8}$  poll. Hab. Kauai, Sandwich Islands.

This shell partakes of the characters of both *Achatina* and *Achatinella* [subgen. *Carelia* H. and A. Adams]. Occasionally, instead of

being wholly black, there are bands of yellow. [One variety is the *A. bicolor* of Dr. Jay.]

**STOMATELLA** [Gena] **CONCINNA**. *T. parvula*, auriformis, tenuis, striis regularibus rosaceo catenatim pictis cincta; labio posticè disjuncto, revoluta; columellâ obsolete perforatâ; intus rosacea, nitida. Long.  $\frac{1}{5}$ ; lat.  $\frac{3}{20}$  poll. Hab. Sandwich Islands.

**TROCHUS** [Collonia] **VERRUCA**. *T. parva*, solida, globoso-conica, nitida plus minusve rosacea; anfr. 6 rotundatis, ultimo costulis ventibus 12 subequalibus, maculis saturatoribus catenatim signatis cincto: apertura circularis; columellâ planulatâ, anticè sub-productâ; umbilico parvo. Long.  $\frac{1}{5}$ ; lat.  $\frac{1}{5}$  poll. Hab. Sandwich Islands.

Its specific name suggests its general appearance.

**TROCHUS** [Monodonta] **GEMMATUS**. *T. parva*, conico-globosa, rubella vel cinerascens; anfr. 4 rotundatis, ultimo costulis ad 10, e granulis nitidis interdum radiatim saturatoribus compositis, cincto; suturâ canaliculatâ; umbilico expanso, canali et carinâ circumdato: apertura rotundata, basi plicato, ringente; labro costulis crenulato, intus sulcato. Long.  $\frac{1}{4}$ ; lat.  $\frac{1}{5}$  poll. Inhabits Sandwich Islands.

[Belongs to the genus *Eucheles* Phil.]

**COLUMBELLA** **PALUMBINA**. *T. ovato-turbinata*, nitida, albida ferrugineo marmorata, et transversim lirata: apertura ringens; labro inflexo, denticulato; columellâ biplicatâ, granulosâ, interdum rosaceo tinctâ. Long.  $\frac{2}{5}$ ; lat.  $\frac{3}{10}$  poll. Sandwich Islands.

Like *C. turturina*, but much smaller, and having regular revolving threads, instead of striæ, always developed near the tip, and prolonged more or less backwards.

**CYPRÆA** [Trivia] **GEMMULA**. *T. parva*, ovato-globosa, nitida, costulis numerosis interdum divaricantibus undique elegantissimè rugosa; dorso minimè sulcato; colore rubidâ, dorso utrinque maculis duabus rosaceis ferè confluentibus, lateribus rosaceo aspersis, subtus albâ, apicibus rosaceo tinctis. Long.  $\frac{1}{5}$ ; lat.  $\frac{3}{20}$  poll. Sandwich Islands.

Closely allied to *C. tremeza* DuRoi.

**ACHATINELLA** **RADIATA**. *T. solida*, ovato-conica, lineolis castaneis flavidis et albidis longitudinaliter picta, interdum fasciâ medianâ vel basali albâ cincta, subumbilicata; anfr. 6 convexis; suturâ marginatâ, albidâ: apertura ovata, peristomate reflexo, flavido; plicâ latâ. Long.  $\frac{3}{4}$ ; lat.  $\frac{2}{10}$  poll. Sandwich Islands.

In size and marking it somewhat resembles *Bul. radiatus*, but the lines are finer and more numerous. [It is *A. dubia* and *A. grisea* Pfr., *Bul. Gouldi* Pfr., *Partula denselineata*. Rv.]

**ACHATINELLA** **RUBENS**. *T. elongato-ovata*, crassa, straminea,

anticè erubescens, apice castaneo; anfr. 6 convexis, epidermide fusco hic illic obtectis; suturâ impressâ: apertura ovata; labro simplici intus incrassato, rosaceo; fauce albâ, plicâ tenui. Long.  $\frac{3}{4}$ ; lat.  $\frac{2}{5}$  poll. Sandwich Islands.

A plain species, but well marked by its colors, especially by that of the aperture. [*A. Mastersii* Pfr.]

ACHATINELLA NUCLEOLA. T. solida, ovato-globosa, livido-castanea, ad suturam et anticè albida, apice pallido; anfr. 6 posticè subtabulatis: apertura rotundata; labro simplici; columellâ excavatâ, callo obtectâ; plicâ parvâ. Long.  $\frac{9}{10}$ ; lat.  $\frac{1}{4}$  poll. Sandwich Islands.

A small, solid species, of a livid hue. [*A. brevis* Pfr.]

ACHATINELLA MICROSTOMA [is *A. textilis* Fer. = *A. ventulus* Rv. and Pfr.].

ACHATINELLA FULIGINOSA [is *A. tristis* Fer.].

ACHATINELLA [Leptachatina] STRIATULA. T. parva, ovato-elongata, nitida, viridis, longitudinaliter concinnè et creberrimè striato-costata; anfr. 7 convexis, ultimo partem dimidiam spiræ adequante: apertura angusta, seminularis; labro albido, incrassato. Long.  $\frac{7}{10}$ ; lat.  $\frac{3}{10}$  poll. Sandwich Islands.

Not unlike *Bul. obscurus* in general appearance. Distinguished from several similar species by its more slender form and by its beautifully barred surface. [*A. clara* Rv. and Pfr.]

☞ Vol. ii. 37, (February 1845); and Journal, v. 290.

PHOLAS [Martesia] BRANCHIATA. T. oviformis, clausa, posticè acuminata, areolis tribus triangularibus partita; areolâ anticâ plicis numerosis concentricis serratis munitâ; mediali transversè subtiliter striatâ; posticâ lamellis corneis flexilibus imbricatis instructâ; dorso scutis tribus obtecto, unico umbonali magno orbiculari; duobus marginalibus lanceolatis; duobus quoque ventralibus; apophysi exili, flexuoso-falciformi. Long.  $1\frac{1}{5}$ ; lat.  $\frac{1}{2}\frac{3}{10}$  poll. Hab. Liberia. Dr. C. J. Bates.

PSAMMOBIA FIGLINA. T. crassa, sub-ovalis, sub-equilateralis, rufo-cinerea, anticè rotundata, posticè hians, sub-rostrata, valdè flexuosa; apice emarginato; valvis concentricè laminoso-striatis, radiatim lineolatis; natibus elevatis, attigentibus; dentibus cardinalibus divaricatis; intus alba, punctis numerosis indentata. Long.  $3\frac{1}{5}$ ; alt.  $2\frac{1}{5}$ ; lat.  $1\frac{2}{5}$  poll. Liberia. Dr. C. J. Bates.

TELLINA RUBICUNDA. T. tenuis, transversa, inequivalvis, anticè semi-elliptica, posticè triangularis, flexuosa, apice truncato, concentricè et radiatim minutissimè striata, natibus post-medianis; valvâ dextrâ planulatâ, postice areolam triangularem lamellosam habente;



valvâ sinistrâ convexâ; colore dilutè roseâ, albo radiato. Long. 1; alt.  $\frac{3}{5}$ ; lat.  $\frac{1}{5}$  poll. Liberia. Dr. C. J. Bates.

Resembles *T. donacina* in shape and coloring, but is larger, and is also distinguished by the triangular area of coarser sculpture on the right valve.

NUCULA [Leda] BICUSPIDATA. T. alba, transversè elongato-ovata, sub-cylindrica, anticè rotundata et triplicata, posticè producta, tricarinata, bicuspidata; valvis obliquè concinnè striatis, præter spatio excavato inter carinas serratas; cardine dentibus anticis ad 12, posticis ad 26. Long.  $\frac{3}{5}$ ; alt.  $\frac{1}{4}$  poll. Hab. Liberia. Dr. C. J. Bates.

[*N. Largillierti* Phil. (1851); *Leda plicifera* A. Ad. (1856).]

NASSA TURBINEA. T. solida, ovata, albidâ, apice producto; anfr. 9 sub-tabulatis, plicis numerosis acutis et striis volventibus profundis ad 13 decussatis; basi spiralter striatâ: apertura parva, stricta, angulato-ovalis; labio acuto, crenulato, intus sulcato; callo columellari erecto, granulato. Long.  $\frac{9}{10}$ ; lat.  $\frac{1}{2}$  poll. Hab. Liberia. Dr. C. J. Bates.

NASSA ELATA. T. elongato-conica, cinereo-albida; anfr. 8 tabulatis, marginatis, posterioribus plicatis, penultimo glabro, ultimo anticè striato: apertura angusta, ovalis, alba; labro acuto, anticè crenulato, intus striato. Long.  $\frac{13}{20}$ ; lat.  $\frac{3}{10}$  poll. Hab. Liberia. Dr. C. J. Bates.

HELIX HEPATIZON. T. depresso-conica, crassa, rubro-castanea, canescens, sub-perforata; anfr.  $5\frac{1}{2}$  convexis, striis incrementalibus et striis volventibus argutè reticulatis; suturâ impressâ: apertura semi-circularis, contracta; peristomate incrassato; intus cerasina. Lat.  $1\frac{3}{10}$  alt.  $\frac{4}{5}$  poll. Found near the mouth of Gaboon River. Dr. C. J. Bates.

☞ Vol. ii. 53, (July, 1845.)

UNIO PALUDICOLUS. T. transversâ, ovato-rhomboideâ, inequilaterali, anticè rotundatâ; margine ligamentali arcuatâ; natibus prominulis, crosis; epidermide rufo-castaneâ; dentibus cardinalibus obliquis, pyramidatis; lateralibus lentè arcuatis; margaritâ cupreo-coruscante. Long.  $1\frac{2}{5}$ ; alt.  $\frac{9}{10}$  poll. Everglades of Florida. J. Bartlett.

In shape and size closely resembles *U. heterodon*.

UNIO PAPYRACEUS. T. fragili, valdè inequilaterali, transversè ovato-oblongatâ, sub-cylindraceâ; posticè subrostratâ, supra angulatâ; natibus parvis, eleganter undulatis; epidermide levigatâ, luteo-castaneâ, radiatim lineolatâ; cardine invalido; dente cardinali longitudinali, compressâ; laterali tenui, rectâ; margaritâ argenteâ. Long.  $1\frac{1}{5}$ ; lat.  $\frac{7}{10}$ ; alt. 1 poll. Everglades of Florida. J. Bartlett.

In shape, delicacy, and even its color, it is not unlike *Anodonta couperiana* Lea.

☞ Vol. ii. 98, (January, 1846.)

**HELIX SATURNIA.** T. magna, lenticularis pallidè rubido-cornea, ad peripheriam costato-carinata, latè et profundè umbilicata: anfr. 5 planulatis, spirâ depresso-conicâ, suturâ profundâ, marginatâ: subtus convexa, costulis obsoletis cincta: aperturâ amplâ, rhomboideâ, peristomate revoluta. Diam. 2; alt.  $1\frac{1}{4}$  poll. Hab. Tavoy. Rev. F. Mason.

In size and form it is like *H. lampas* from Jamaica; but differs especially in having a broad, deep umbilicus.

**HELIX** [s. g. Corilla] **REFUGA.** T. sinistrorsa, discoidea, supra plana, infra concava, viridi-cornea: anfr. 6 aretè volutis, confertim striatis, ultimo propè aperturam deflexo; suturâ impressâ: aperturâ perobliquâ, subcordiformi, peristomate albo, reflexo, callo sinuoso connexo; fauce lamellâ albâ, flexuosâ, ad anfractum penultimum volvente instructâ.

Diam.  $\frac{2}{5}$ ; alt.  $\frac{1}{5}$  poll. Hab. Tavoy. Rev. F. Mason.

This remarkable shell is almost exactly like *H. carabinata*, Fer., except that it is reversed, and has no lamellæ revolving within the outer lip.

**HELIX HONESTA.** T. orbicularis, depressa, subcarinata, tenuis, nitida, submargaritacea, straminea vel albida, sub-perforata, subtus lineis subtilibus volventibus striata: anfr. 5 convexis; sutura lineari, marginata: apertura lunata, labro simplici, acutissimo, ad umbilicum reflexo.

Diam.  $\frac{9}{20}$ ; alt.  $\frac{1}{4}$  poll. Hab. Tavoy. Rev. F. Mason.

A plain, simple shell, resembling *H. fusca* more than any other species I have seen. It is, probably, a *NANINA*.

**BULIMUS MONILIFERUS.** T. conico-oblongata, plerumque sinistrorsa, lævis, luteo-cinerea, flammulis longitudinalibus, fasciâ suturali lineari, et fasciâ subsuturali interruptâ fuscis; regione umbilicali fuscâ, fasciâ luteâ divisâ; anfr. 7, ultimo subcarinato; aperturâ sub-ovatâ, basi angulatâ, sub-effusâ; labro reflexo, rubro-purpureo, ad columellam dilatato; fauce purpureâ. Long.  $1\frac{1}{2}$ ; lat.  $\frac{7}{10}$  poll. Hab. Tavoy. Rev. F. Mason.

Differs from *B. contrarius* and *B. lævus*, Mull., by its angular aperture, and the color of its lip and throat. The interrupted line, just in front of the suture, exists in all the specimens I have seen. It does not always occur reversed. [Compare *B. Theobaldianus*, Bens.]

**PUPA** [Torquilla] **MELLITA.** T. parva, subfusiformis, pellucida, nitida, straminea, apice obtuso: anfr. 7 convexis; suturâ impressâ, denticulatâ: apertura ampla, subquadrata, plicâ columellari, plicâ basali, plicâ labiali et lamellâ posteriori ringens: peritremate undulatâ, reflexâ, albâ.

Long.  $\frac{9}{40}$ ; lat.  $\frac{3}{40}$  poll. Hab. Tavoy, in hortis. Rev. F. Mason.

The general aspect of the shell is not unlike that of *Achatina octona*, in company with which it was found.

**SUCCINEA SEMISERICA.** T. fragilis, ovalis, a tergo depressa, posticè straminea, anticè albido-sericea, longitudinaliter plicoso-striata: anfr.  $2\frac{1}{2}$ , ultimo maximo; aperturâ ovatâ, patulâ faciem inferiorem ferè adequante.

Long.  $\frac{1}{2}$ ; lat.  $\frac{3}{10}$ ; alt.  $\frac{3}{20}$  poll. Hab. Tavoy, in hortis. *Rev. F. Mason.*

Its shape is like *S. tigrina*, Fer., and it is well characterized by the peculiar silky-white or pearly surface of the anterior half of the shell.

**MELANIA HERCULEA.** T. ponderosa, elongato-conica, fusco-viridis, decollata: anfr., numero integro ad 15, superstitibus 2-5, planulatis, infra suturam constrictis, plicis profundis 4-nodosis longitudinalibus; ultimo subearinato, basi striis crassis cincto: apertura subrhomboidalis, anticè producta, callo columellari rotundato, crasso, fauce plus minusve fuscâ.

Long. 3 poll.; lat. 1 poll. Hab. Tavoy River. *Rev. F. Mason.*

This is the largest *Melania* with which I am acquainted, and is very massive. It differs from the large *Melania* found about Calcutta (of which, also, I am unable to find any description), by its larger size, darker color, more numerous folds, which bear about four tubercles each, instead of having usually only a median carina bearing acute tubercles.

**AMNICOLA CINCTA.** T. minuta, tenuis, ovato-oblongata, imperforata, pallidè cornea, decollata: anfr. (superstitibus) 3, ventricosis, ultimo magno, subearinato, lineis volventibus, et interdum fasciâ fuscâ, cincto: apertura ovata, basi admodum producta, labro simplici.

Long. haud  $\frac{1}{10}$  poll. Hab. fluv. Tenasserim, Burmah. *Rev. F. Mason.*

**NUCULA TURGIDA.** T. alba (dealbata,) sub-equilateralis, sub-rhomboidea, posticè acuta, anticè rotundata, ventricosa, margine ventrali pendente, ubique lamellis concentricis obtusis reflexis confertis ornata: natibus prominentibus; cardine dentibus 21 utroque latere instructâ.

Long.  $\frac{1}{2}$ ; lat.  $\frac{1}{4}$ ; alt.  $\frac{7}{20}$  poll. Hab.

This must resemble closely *N. tumida*, Reeve, but is in no wise angular anteriorly.

**BULIMUS TURNIX.** T. oblongo-ovata, a tergo compressa, nitida, cervina, flammulis albidis quodammodo seriatis marmorata, longitudinaliter striata, lineis granulosis volventibus decussata: anfr. 5 convexis, ultimo magno: apertura ovali, peristomate valdè revoluta, rosaceo: columellâ obliquâ, pliciformi: umbilico obliquo, rimato.

Long.  $2\frac{1}{5}$ ; lat.  $1\frac{1}{10} \times \frac{9}{10}$ ; apert.  $1\frac{3}{10}$  poll. [Hab. Brazil?.]

Its surface is covered with shining, longitudinally compressed granules, like *B. gonistoma*, and evidently belongs to the same group; but, in other respects, it is more like *B. pudicus* and *B. Bolivarii*. Few exceed it in beauty.

☞ Vol. ii. 218, (June, 1847.)

HELIX ANGUINA [is *H. [Corilla] achatina* Gray].

MELANIA PAGODULA. T. crassa, sub-rhombea, turrita, tenuiter striata, fusco-castanea, decollata; spirâ elevatâ, conicâ; anfr. 4, angulo spinis 6 robustis armato, ultimo anticè subrostrato et costulis ad 4 cineto: apertura ovata, antrorsum producta, fauce cœrulescente fusco maculatâ. Long.  $1\frac{1}{2}$ ; lat.  $\frac{7}{8}$  poll. Hab. Thoungyin River, a branch of the Salwen. Mrs. Vinton.

This remarkable shell is almost precisely like *M. armigera* Say in its structure and proportions, but is three times as large, something like *Io spinosa* Lea.

MELANIA BACCATA. T. magna, crassa, elongato-turrita, epidermide fusco-castaneo induta; spirâ decollatâ, anfr. 6 rotundatis, plicis longitudinalibus et costis volventibus triseriatim nodoso-decussatis, ultimo ad basim 4 costato: apertura lunata; labio anticè producto; columellâ aurantiâ valdè arcuatâ; fauce cœrulescente fusco fasciatâ. Long. 2; lat.  $\frac{3}{4}$  poll. Hab. Thoungyin River. Mrs. Vinton.

Closely allied to *M. inquinata*, but is distinguished by its ranges of prominent pustular knobs and its orange columella.

MELANIA HUMEROSA. T. elongato-turrita, simplex, viridi-cornea; spirâ derosâ, anfr. ad 8 convexis, propè suturam obsoletè angulatis, lineis tenuissimis spiraliter striatis, ultimo anticè costato-striato: apertura sub-ovalis, anticè vix effusa; columellâ rotundatâ, albâ; fauce fasciatim sub-lividâ. Long.  $1\frac{3}{8}$ ; lat.  $\frac{1}{2}$  poll. Hab. Manko, Tavoy. Mrs. Vinton.

Allied to *M. Virginica* Say, in size and form, though somewhat more conical and robust, and with angular whorls. It still more nearly resembles *M. intermedia* Von den Busch.

MELANIA FLUCTUOSA. T. parva, elongata, sub-cylindrica, fulvo-cornea, longitudinaliter plicata, plicis 8-10 compressis, acutis, fuseo-cinctibus; anfr. ad 6 (apice derosâ) vix convexis; suturâ haud impressâ: apertura parva, ovata, vix effusa. Long.  $\frac{3}{8}$ ; lat.  $\frac{1}{4}$  poll. Hab. Newville, Tavoy. Mrs. Vinton.

Allied to *M. plicifera* Lea, but smaller and more cylindrical, with the plaits extending to the base, and destitute of the coarse revolving lines.

NERITINA CAPILLULATA [is *N. reticularis* Sowb.].

**NERITA ARTICULATA.** T. obliquè semi-globosa, posticè planulata, anticè dilatata; spira prominulâ, anfr. 3, liris prominulis atro-purpureis albo-articulatis 25-38 cinctis, interspatiis latioribus lucidis carneolis decussatim striatis: apertura magna, semilunaris; labro acuto atropurpureo, callo albo creberrimè sulcato firmato; fauce luteâ; labio excavato, extrorsum plicato; columellâ acutâ, sinuatâ, denticulis 3-4 armatâ. Diam.  $\frac{7}{8}$ ; alt.  $\frac{1}{2}$  poll. Hab. Tavoy.

Much like *N. lineata*, but a little more oblique and less globular; the girdling threads are less numerous, less in relief, and distantly articulated with white; color more flesh-like; grooves on labrum more numerous; spire a little protruded.

**NEMATURA PUNCTICULATA.** T. minuta, subrhombea, compressa, solida, nitida, pallidè virescens, omninò sub lente punctulis serialibus inculpta; spirâ elevatâ, anfr. 5 convexis, ultimo permagno, versus aperturam valdè contracto: apertura parva, dispar, rotundato-elliptica, tubuliformis; labro simplici crasso, continuo. Long.  $\frac{1}{2}$ ; diam.  $\frac{1}{4}$ ,  $\frac{1}{8}$  poll. Hab. Tavoy. Mrs. Vinton.

About the size and shape of *N. deltæ*, Benson, but the aperture is much more distorted, there is no approach to an umbilicus, and its punctured surface is sufficiently distinctive. [A. Adams has described a species under the same name, very possibly the same shell. Mag. Nat. Hist. Oct. 1853.]

**UNIO GENEROSUS.** T. magna, solida, transversa, oblongo-ovata, inequilateralis, anticè rotundata et angustata; posticè obliquata, subrostrata, ad apicem truncata; margine ventrali arcuatâ; m. dorsali rectâ, adscendente; umbonibus contiguis haud elevatis; valvis subtumidis radiatim substriatis, posticè sub-costatis; epidermide fuliginosâ, disco nitido; dentibus remotis, cardinalibus elongatis, obliquis, laminatis; margaritâ albâ, vel salmonaceâ, limbo iridescente.

Long.  $3\frac{1}{2}$ ; lat.  $1\frac{1}{2}$ ; alt.  $2\frac{1}{2}$  poll. Hab. Newville, Tavoy. Mrs. Vinton.

The general form, convexity, and color is like that of *Marg. Vondenbuschiana*, Lea, though the largest specimens are more arcuated at base, and the younger ones are more oblong, like *U. complanatus*, Lk. The cardinal teeth are like those of *U. marginalis*, a more cylindrical shell, but they are still more elongated.

☞ Vol. ii. 262, (December, 1847.)

**PHYSA VINOSA.** T. tenuis, ovato-globosa, badia, spiralter minutissimè striata, epidermide tenui induta; spirâ obtusâ, anfr. 4, ultimo per-magno: apertura ovato-lunata,  $\frac{3}{4}$  longitudinis testæ æquante, hepatica; columellâ rectâ, tenui. Long.  $\frac{3}{4}$ ; lat.  $\frac{1}{2}$  poll.

Brought by Dr. C. T. Jackson from the Lake Superior region.

A remarkably inflated species, most like *P. ancillaria*, Say, but is



not shouldered nor widest behind the middle, nor tapering anteriorly. It is well distinguished by its thin structure, striated surface, wine-red color externally, and liver-brown internally.

**PUPA DECORA.** T. minuta, cylindræca, tenuis, nitida, lucida, vinosa, tenuissimè striata, perforata; spirâ anfr. 5-6 ventricosis, apice rotundatâ; suturâ profundâ: apertura circularis, posticè truncata, dentibus 4 armata quorum uno ad columellam, duobus ad labrum positis; peristomate vix reflexo.

Long.  $\frac{1}{10}$ ; lat.  $\frac{1}{20}$  poll. Brought by Mr. T. R. Dutton from the region of Lake Superior.

It is rather larger, more cylindrical, and darker colored than *P. corticaria*, Say. Its aperture is smaller and differently armed. In form, color, and armature it is more like *P. Gouldii*, Binney, which is not more than half its size.

**NATICA FOSSATA.** T. depressa, orbiculato-conica, solida, tenuissimè striata, cinereo-albida, propè suturam purpurascens, subtus pallescens; spirâ anfr. 5 convexis, decliventibus, ultimo ad peripheriam subangulato: apertura semilunaris; fauce hepaticâ; callo columellari regionem umbilicalem semi-implente, castaneo; umbilico magno, canali profundo, præcipiti, epidermide stramineo spiraliter striato induto, circumacto. Lat.  $1\frac{3}{4}$ ; alt.  $1\frac{3}{4}$  poll. Hab. Florida.

This would not, at first sight, be distinguished from *N. duplicata* Say, which it greatly resembles in form and coloring, but the umbilical region is entirely different; and the deep wide channel leading to the umbilicus bordered by an acute ridge, and covered by a spirally striated epidermis is in striking contrast with the pale polished region adjacent. In this respect it is like *N. Lamarckiana*.

 Vol. iii, 37, (June, 1848.)

Specimens collected by Mr. J. Bartlett.

**SUCCINEA LUTEOLA.** T. variabili, ovato-turritâ, solidiusculâ, laxè striatâ, extus albâ vel corneâ, sed plerumque lutescente, intus luteâ; anfr. 4, supernis rotundatis, ultimo conico-ovato; aperturâ modicâ, ovatâ, partem dimidiam longitudinis vix superante; columellâ normaliter arcuatâ, haud plicatâ, ad regionem umbilicalem reflexiusculâ.

Long.  $\frac{1}{2}$ ; lat.  $\frac{1}{4}$  poll. Hab. Texas.

Very variable in its proportions as well as in coloring. Short specimens resemble *S. campestris* of the South, but want its columellar fold. The elongated specimens are like *S. amphibia*; and in the diminutive size of the aperture it is like *S. vermæta*. Fresh specimens are well characterized by their golden yellow color. It may possibly be Say's *S. undulata*.

**SUCCINEA CONCORDIALIS.** T. tenui, lucidâ, obliquè ovatâ, acuminatâ, reflexâ, cereâ et ad apicem rubicundâ, leviter striatâ et lineis

obscuris volventibus insculptâ; anfr. 3 perobliquis, supernis parvulis, tumidis, suturâ profundâ; aperturâ ovatâ, triescentes duæ longitudinis testæ æquante, basi rotundatâ; columellâ arcuatâ, absque plicâ, leviter arrectâ; intus micante.

Long.  $\frac{1}{2}$ ; lat.  $\frac{1}{2}$  poll. Hab. near Lake Concordia.

At first view, this might be mistaken for *Linnea columella*. Its color and texture are like *S. amphibia*, from which it differs chiefly in the slight upturning of the edge of the columellar lip, the presence of the obscure revolving lines, and the ruddy apex.

HELIX SELENINA. T. parvâ, discoideâ, pallidâ, tenuissimâ, exiliter striatâ, diaphanâ; anfr. 5 convexis, ultimo subangulato, suturâ impressâ; basi convexo, umbilico infundibuliformi perforato; aperturâ angustâ, lunari, labro simplici.

Diam.  $\frac{1}{5}$  poll. Hab. Georgia and Florida.

About the size of *H. arborea*, distinguished by its delicacy, its pale, opaline color, its small well-defined and deep umbilicus, its discoidal spire and its narrow aperture. Its color and superior aspect may be compared with *H. lineata*. [Compare *H. vortex*.]

HELIX ROTULA [CAPSELLA]. T. parvâ, discoideâ, pellucidâ, nitidâ, electrinâ, *H. suppressæ* simili, umbilico infundibuliformi profundo perforatâ; anfr.  $6\frac{1}{2}$ , vix convexis, striis distantibus supernè impressis, suturâ marginatâ; aperturâ semilunari, labro simplici, haud incrassato.

Diam.  $\frac{1}{5}$  poll. Hab. Tennessee.

This delicate little species has the size and color of *H. indentata*, and is similarly striated above; the whorls are numerous and closely convoluted like *H. suppressa*, but it has a larger umbilicus, like *H. lasmodon*, and has no thickening or plate within the aperture.

HELIX MAXILLATA. T. parvâ, globoso-lenticulari, pallidè castaneâ, solidulâ, *H. hirsutæ* simili: aperturâ lineari, labro reflexo, præter emarginationem inconspicuam dente obsoleto divisam integro, fauce lamellam sicut maxillam pone labrum gerente; lamellâ columellari rectâ, supernè bifurcatâ.

Diam.  $\frac{1}{4}$  poll. Hab. Tennessee.

This shell, which is smaller and somewhat more globose than *H. hirsuta*, is well characterized by its partially bifurcated pillar tooth, and by the peculiar jaw-like plate, almost concealed behind the inflexed lip, within the fauces.

HELIX LEPORINA. T. parvâ, lenticulari, lucidâ, rufo-corneâ, pilosiusculâ, leviter striatâ, vix perforatâ; spirâ depressâ, anfr. 5 convexiusculis, ultimo supernè subangulato; regione umbilicali excavato; aperturâ lunatâ, labro incumbente, reflexo, roseo, dentes duos albos sinum amplectentes gerente; lamellâ columellari obliquâ, albâ, erectâ, acutâ, rectangulari, callo lineari supernè ad angulum aperturæ junctâ.

Diam.  $\frac{1}{5}$ ; alt.  $\frac{1}{8}$  poll. Hab. Mississippi and Arkansas.

Intermediate between *H. hirsuta* and *H. inflecta*, though smaller than either. It is less globose than *hirsuta*, while the aperture is much the same, except that the sinus of the lip is formed by the projection of two teeth instead of by an emargination, in this respect resembling *H. inflecta*. From the latter it differs in the columellar tooth. It resembles *H. pustula* still more, but the umbilical region wants the peculiar channel of that species.

*HELIX VULTUOSA*. T. depressâ, utrinque convexiusculâ, tridentatâ, rufo-corneâ, latè umbilicatâ, *H. fallaci* et *H. texasiana* intermediâ; anfr.  $5\frac{1}{2}$  aretè volutatis, convexis, ultimo ad peripheriam subangulato; aperturâ aretè lunari, labro albo, crasso, tortuoso, dentibus duobus instructo, quorum altero mediano profundè posito, retrocedente, altero basali, marginali, falcato; lamellâ columellari obliquâ, arcuatâ, erectâ, faucem ferè ocludente.

Diam.  $\frac{2}{5}$ ; alt.  $\frac{1}{5}$  poll. Hab. Arkansas and Texas.

Differs from *H. fallax* in being generally smaller and more convex, with a narrower aperture more nearly closed by the teeth, and in having the basal tooth much more developed and the median one deeper seated and directed more inward; from *H. texasiana* it is distinguished by having an open umbilicus, and by having no line of callus connecting the pillar tooth with the upper angle of the aperture, forming a re-entering angle.

Many other Shells are contained in this Collection, which are either new species, or very strongly marked varieties of northern types. Among them is one, which seems to be quite common from Georgia to Texas, and which Dr. Binney regarded as the southern form of *H. thyroïdus*, though some of his specimens were labelled "*clausa*?" They have the globular form of *H. clausa*, sometimes approaching even to *H. elevata* in height; the aperture is large and rounded, the umbilicus generally quite closed, and the columella sometimes possesses and as often is destitute of a tooth like *H. thyroïdus*. I think further observation will establish its claim as a distinct species, and in such case I would propose for it the name of *H. BUCCULENTA*.

Another form, found in the southwestern States, is allied to *H. appressa* and *H. palliata*. It is a little more globular than the former, has its peculiar imperforate base, but its aperture is more open and rounded, and destitute of a tooth. *H. Columbiana* is still more globular, smoother, with an open umbilicus and a peculiar sinuosity of the lip. I would indicate this form by the name of *H. ABJECTA* [DIVESTA].

*PUPA VARIOLOSA*. T. minimâ, ovato-conicâ, rufâ, sub-perforatâ, confertim indentatâ; anfr.  $\frac{2}{5}$  turgidis; suturâ profundâ; aperturâ ob-

liquè semiovali, dente columellari, altero labiali, altero postico lamellari armatâ: labro vix reflexo.

Long.  $\frac{1}{12}$  poll. Inhabits Florida.

Smaller than any of our species except *P. milium*, and is distinguished by its short, conical form. The five specimens examined, all presented the crowded thimble-like impressions under a magnifying power of 20 diameters. I think no other American species has the revolving tooth on the penult whorl.

PUPA MODICA. T. minutâ, fragili, ovato-conicâ, elongatâ, albâ vel corneâ, edentatâ, anfr. 5 convexis, *P. fallaci* simillima sed minore dimidio, anfractibus duobus carente; aperturâ campanulatâ, labro expanso, haud planulato.

Long.  $\frac{1}{10}$ ; lat.  $\frac{1}{15}$  poll. Hab. Florida.

Differs from *P. fallax* only in being one half its size, in having two whorls less, and in having a bell-shaped aperture with a thin revolute lip instead of a thick flattened one.

CYLINDRELLA [Macroceramus] PONTIFICA. T. parvâ, ovato-fusiformi, supernè attenuatâ, griseo et fusco marmoratâ; anfr. ad 12 rotundatis, costulis crebris obliquis, alternis suturam prætereuntibus, ornatis, ultimo carinato: apertura laterali, circulari, campanulatâ; columellâ rectâ, umbilicum linearem tegente; peristomate reflexo, ferè continuo.

Allied to *Pupa unicarinata*, Lk., and *P. turrita*, Pfeif., but is smaller, more coarsely ribbed, has a more complete aperture, projecting to the left side, and is readily distinguished from either of them by the projection of the alternate ribs across the suture, giving the whorls a dentate or coronated appearance. Its coloring is like that of *Pupa cinerea*.

CYLINDRELLA JEJUNA. T. fusiformi, solidiusculâ, truncatâ, pallidè corneâ, filis tenuibus albis longitudinaliter liratâ: anfr. superstitibus ad 9 (totis ad 18) convexis, ultimo exiliter carinato; suturâ benè impressâ; collo brevissimo; aperturâ expansâ, peritremate albo, continuo, anfractui penultimo haud annexo.

Long.  $\frac{2}{5}$ ; lat.  $\frac{1}{10}$  poll. Hab. Florida.

This may be a form of *C. lactaria*, so common in Florida, and which presents so many varieties, especially in the length of the neck and the development of the lip. But it seems to be constantly smaller, darker colored, more solid, and with more convex whorls. The peritreme also seems never to rest on the penult whorl, as is usually the case in *C. lactaria*.

☞ Vol. iii. 64, (October, 1848.)

GLANDINA BULLATA. G. testâ papyraceâ, bullatâ, diaphanâ, ellipsoideâ, lacteâ ferrugineo tinctâ, longitudinaliter crebrò striatâ; spirâ

octantem longitudinis æquante, anfr. 5 convexiusculis; suturâ modicâ; aperturâ  $\frac{2}{3}$  longitudinis testæ, latè lunatâ; columellâ modicè arcuatâ, laminâ callosâ indutâ.

Long. 1.5; lat. 0.8 poll. Inhabits Louisiana. *Rev. E. R. Beadle.*

Differs from *G. truncata* in its extreme tenuity, inflated form, short spire, fewer whorls, paler color, finer striation, and nearly straight pillar.

**LIMNEA LANCEATA.** L. testâ fragili, diaphanâ, corneâ, attenuatâ, striis incrementalibus et striis volventibus argutè reticulatâ; spiræ anfractibus 6 planiusculis perobliquis, ultimo  $\frac{3}{4}$  testæ æquante; aperturâ angustâ, dimidiam longitudinis ferè æquante, posticè acutâ; plicâ columellari conspicuâ, acutâ, vix spirali; labro fasciâ castaneâ submarginali picto.

Long.  $\frac{4}{5}$ ; lat.  $\frac{1}{4}$  poll. Inhabits north shore of Lake Superior, "Pic Lake." *Prof. Agassiz.*

Next to *L. gracilis* this is the most slender species we have. It differs from *L. attenuata* and *L. reflexa* in the flatness of its whorls, its aperture, which is proportionally much larger and narrower, and in being only about half their size. It may be compared to a large specimen of *Physa hypnorum* reversed.

 Vol. iii. 193, (April, 1850.)

**VAGINULUS LIBERIANUS.** V. corpore ovali, elongato, posticè ampliato, fuscato infra pallidiori, maculis inequalibus laceratis nigris utroque asperso et lineâ dorsali mediano pallido notato; soleâ trientem latitudinis æquante, transversè rugosâ; tentaculis parvis oculiferis bulbosis.

Long. 2; lat.  $\frac{1}{2}$  poll. Hab. Liberia. *Dr. Perkins.*

A smaller and more slender animal than *V. Floridanus*. Its blotches are also larger and less numerous, and occur underneath, as well as on the back. In form, it compares somewhat with *V. Langsdorffii*, from Brazil, but not in coloring.

**SUCCINEA SPURCA.** T. parvâ, fragili, virescente, striis laxis, scabris, lutum cumulantibus; spiræ anfr. 3 ventricosis; suturâ profundâ; aperturâ rotundato-ovatâ, trientes duos longitud. testæ æquante; columellâ acutâ, valdè arcuatâ, absque plicâ.

Long.  $\frac{3}{10}$ ; lat.  $\frac{2}{10}$  poll. Hab. Liberia, on the moist sides of water pits, and in crevices of trees. *Dr. Perkins.*

Similar to *S. avara* in form and in the peculiarity of becoming invested with an earthy coating. It differs in its paler color, and its more arched columella.

**SUCCINEA HELICOIDEA.** T. parvâ, latè umbilicatâ, tenui, stramineâ, supra obliquè liratâ, infra lævigatâ; spirâ depressâ, anfr. 3 $\frac{1}{2}$  rotundatis, ultimo subangulato; aperturâ lunata, alta.



Diam.  $\frac{1}{4}$ ; alt.  $\frac{1}{2}$  poll. Liberia. *Dr. Perkins.*

A singular shell, whose form and texture would lead us to pronounce it a *Helix*. But its small number of whorls, and the statement of Dr. Perkins that the animal is very large and sluggish, so that it cannot retract within the shell, would bring it more properly within this genus. The sculpture of its upper and lower faces distinguishes it.

*HELIX INDECORATA.* T. parva, tenui, orbiculato-depressâ, arcte umbilicatâ, nitidâ, glabrâ, virescente; spirâ depresso-convexâ, anfr.  $5\frac{1}{2}$  convexiusculis, ad suturam benè impressam marginatis; subtus convexâ; aperturâ lunatâ, labro acuto.

Diam.  $\frac{2}{5}$ ; alt.  $\frac{1}{4}$  poll. Hab. Liberia. *Dr. Perkins.*

A very plain species, resembling in form small specimens of *H. ligera*; but in the characters of surface and umbilication it is more like a diminutive *H. inornata*. The whorls revolve more closely in the same space, and form a more dome-shaped spire than the incipient whorls of *H. pellucida*.

*HELIX CEREAE.* T. parvulâ, vix perforatâ, fragili, depresso-orbiculari, lucidâ, nitidâ, albido-straminea; spirâ depresso-conicâ, anfr. 5 convexiusculis ad suturam marginatis; aperturâ lunatâ; labro acuto.

Diam.  $\frac{1}{4}$ ; alt.  $\frac{1}{4}$  poll. Hab. Cape Palmas. *Dr. Perkins.*

Very similar in its characters to the preceding, but is less than half its size, of a very different color, and the umbilical region differs considerably, especially the reflection of the lip at that part, which does not cover the portion of the umbilicus next the aperture, but turns round at right angles to it. It may be compared to *H. alliaria*, but the umbilic is not half as large. The animal is glossy black and extremely active.

*HELIX TALCOSA.* T. parvâ, tenui, vix perforatâ, pyramidalî, talcosâ, spirâ acutissimè lirâtâ, basi glabrâ; spirâ conicâ, anfr. 7 planis, ultimo acutissimè carinato; aperturâ rhomboideo-lunatâ.

Diam.  $\frac{3}{8}$ ; axis,  $\frac{3}{8}$ . Hab. Cape Palmas, on bark of trees in forests. *Dr. Perkins.*

Remarkable for its trochoid form and silvery lustre, on account of which it would most likely be pronounced a marine species. *H. Ibuensis* accords well with this, excepting that the sharp revolving lines, about three or four on each whorl, are not mentioned.

*BULIMUS MUCIDUS.* T. solidulâ, ovatâ, mamillatâ, indentatâ granuloso-striatâ, flavidâ, longitrosum strigis interruptis nigris ornatâ; spira ovali, anfr. 6, supernis ventricosis, ultimo abnormali, contracto; suturâ marginatâ et crenulatâ; aperturâ parvâ, rotundato-lunatâ; labro acuto, pallido; columellâ subtruncatâ; fauce nigro et luteo variegatâ.

Axis,  $1\frac{3}{8}$ ; lat.  $\frac{3}{4}$  poll. Hab. Interior of Liberia. *Dr. Perkins.*

Allied to *B. interstinctus*, from the same region, but much smaller, shorter in proportion, and rather remarkable for the mottling of colors, which causes it to look as if mouldy.

**BULIMUS INFRACINCTUS.** T. elongatâ, ovato-conicâ, vix perforatâ, tenui, stramineâ, fasciis duabus badiis basalibus cinetâ; spirâ acutâ, anfr. 6 convexiusculis, ultimo subangulato  $\frac{3}{4}$  long. testæ adequate; aperturâ amplâ, obovatâ; labro acuto; columellâ reflexiusculâ, haud appressâ.

Long.  $\frac{5}{8}$ ; lat.  $\frac{3}{8}$  poll. Hab. Taboo and Fishtown, Liberia. Dr. Perkins.

From several similar African shells, this differs in having but two bands, the posterior one fairly entering the aperture so as not to appear at the suture on the other whorls as in *B. neuricus*, *meridionalis*, and *Bengalensis*, from the latter of which it can scarcely be distinguished, except by this peculiarity. Both bands are often wanting.

**ACHATINA VENTRICOSA.** T. magnâ, solidâ, conico-ovatâ, ex corneo virescente, longitrorsum obscure flammulatâ, granoso-reticulatâ; spirâ conicâ, anfr.  $6\frac{1}{2}$  convexis, ultimo ventricosus, obtusè carinato; suturâ suberenulatâ; aperturâ rotundato-ovatâ  $\frac{3}{5}$  long. testæ adequate; labro everso intus incrassato, submargine et columellâ nitidè purpureis; columellâ valdè areuatâ.

Long. 5; lat.  $3\frac{1}{2}$  poll.; aperturæ long. 3; lat.  $1\frac{3}{4}$  poll. Hab. Liberia.

Closely allied to *A. purpurea*, but the form is constantly more ventricose, and by comparing an extensive series, including the young, the difference is plainly not accidental. The color is more mixed with green and less conspicuously flammulated, and often flecked with triangular pale spots, and the aperture more of a blood red. Dr. Perkins says it is only found in the interior, while *A. purpurea* is found near the sea.

**ACHATINA BALTEATA.** T. tenui, lævi, ovato-conicâ, tenuissimè striatâ, vinosâ argenteo-lineolatâ et fasciâ sub-basali argenteâ semper cinetâ; spirâ conica, apice mammillatâ, anf. 7 convexis supernis subgranulosis, ultimo angulato; aperturâ  $\frac{2}{3}$  long. testæ, lunatâ; columellâ subrectâ, tenui, modicè truncatâ, albâ rufo marginatâ.

Long.  $1\frac{5}{8}$ ; lat.  $\frac{7}{8}$  poll. Hab. Liberia. Dr. Perkins.

A very peculiar shell, both in its conical form and in its marking. The broad silvery band, which is in itself enough to distinguish it, as well as the delicate revolving threads, resemble the hydrophanous bands, on the Bulimi from the Philippine Islands, but they do not disappear on being wet. [Syn. *A. Gouldi* Rv.]

**ACHATINA** [subgen. *Electra*] **PARITURA.** T. elongatâ, tenui,

nitidâ, dilutè corneâ, longitrorsum concinnè liratâ; spirâ turritâ, ad apicem obtusâ, anfr. 7 convexis, ultimo dimidiam long. testæ adequante; suturâ profundâ; aperturâ angustâ, subauriculatâ; columellâ valdè arcuatâ, involutâ, canalem basalem efformante. Incola vivipara.

Long. 1; lat.  $\frac{7}{20}$  poll. Hab. Buried under leaves or in earth, during the dry season, near the sea, Fishtown, Liberia.

Closely approaches *A. Hugeli*, Pfeif., but is more slender, more obtuse at apex, more coarsely and regularly striate, and with fewer whorls. In numerous specimens of the animal preserved in spirits, the young are plainly seen in the oviduct, already escaped from the egg.

Mr. Sowerby has also described a viviparous *Bulimus* (Malac. Mag.) which Dr. Perkins also collected at Cape Palmas.

AMNICOLA CILIATA. *T. parvâ*, elongatâ, imperforatâ, fusco-iridâ; spirâ acuto-conicâ, anfr. 6 subangulatis ad angulum serie aculearum recurvarum armatis, ultimo ad peripheriam acutè carinato; aperturâ circulari, labro nigro.

Long.  $\frac{1}{4}$ ; lat.  $\frac{1}{8}$  poll. Hab. Deea River, Liberia, on the muddy margins. *Dr. Perkins.*

A beautiful little species, grouping with a somewhat larger one from New Zealand, described by me as *Melania corolla*, and a smaller one from Jamaica, found by Professor Adams, and named by him *M. spinifera*. A further examination of the apertura and operculum, and also the animal of the New Zealand species, satisfies me that they ought all to come under the genus *Ammicola*.

AMPULLARIA [Pomus] BALANOIDEA. *T. solidâ*, imperforatâ, globosâ, decollatâ, fusco-olivaceâ, fasciis numerosis saturationibus cinctâ, lineolis undulatis granulosis confertis insculptâ; spirâ elevatâ, anfr. superstitibus duobus ventricosis, ad suturam appressis; aperturâ rotundato-ovatâ, labro acuto; columellâ arcuatâ, planulatâ, croceo tinctâ, fauce castaneo et albido fasciatâ; operculo tenui.

Diam.  $\frac{3}{4}$  poll. Hab. Grand Cape Mount, Liberia, on rocks in rapid streams. *Dr. Perkins.*

A small, very solid species, somewhat similar to *A. Storeria*, Jay, from the River Amazon.

TRICHOTROPIS [Fossarus] PUSILLUS. *T. minutâ*, rhomboideâ, umbilico semicirculari perforatâ, albidâ, striis minutis volventibus cinctâ; spirâ conicâ, anfr.  $\frac{4}{5}$  convexis, ultimo ventricoso et costis elevatis tribus cincto; aperturâ semicirculari; columellâ rectâ, ad planitiem labri acuti trilobati haud assurgente; umbilico semicirculari.

Axis,  $\frac{1}{8}$  poll. Hab. Crevices of rocks beaten by surf, at Fishtown, Liberia. *Dr. Perkins.*

This curious little shell was also collected by the Exploring Expedition, probably at the Cape de Verds. No hairy epidermal processes appear on any of the specimens; yet I cannot doubt that it belongs to the genus where I have placed it. [Genus Fossarus.]

**APLYSIA FIMBRIATA.** A species somewhat resembling *A. dactylomela* from South America was collected and figured by Dr. Perkins, without, however, giving the colors. It is about five inches long when fully extended, and about three and a half inches across the lobes when quite expanded. The margin of the foot is somewhat corrugated, and the margin of the lobes sinuate. There are eight or ten large, black annuli on each side of the exterior of the mantle. The margin of the interior, which is dark, is digitate with white, the digitations being more or less rectangular. The cervical tentacles are small and slender; the cephalic tentacles have a coarsely fringed margin. The calcareous shield is thin and delicate, with a strong epidermis extending beyond its edge; it is obliquely ovate-triangular, quite acute at apex.

**BULIMUS INTERSTINCTUS**, proves to be very variable in form, and especially in color, being green, brown, ochreous, sometimes spotted, &c. *Bulimus rubicundulus*, Nob. is one of these varieties.

☞ Vol. iv. 87, November, 1851.

**PHOLAS** [Parapholas] **OVOIDEA.** T. ovoidea, solidula, cinerea, posticè hiantissima et epidermide valdè vegata; margine ventrali anticè laminâ calcareâ clauso; apicibus ad trientem anteriorem testæ positis; valvis sulco mediano partitis, portione anteo rotundato laminis concentricis radiatim striatis exasperato, portione postico subcylindrico, striis concentricis remotis notato; apophysi cardinali subulato, ad apicem dilatato; valvis auxiliariis nullis?

Long. 3; lat. 1½; alt. 2 poll. Inhabits Monterey. *Maj. Rich.*

Remarkable for its short and ovoid form, and its great dehiscence. The epidermis is prolonged posteriorly, much as in specimens of *Mya truncata*. There seem to be no accessory pieces at the hinge, though the hinge margin is reflected into a broad plate on each side so as to answer the same end.

**PETRICOLA BULBOSA** [is *P. robusta*, Sowb.].

**MACTRA NASUTA.** T. solida, transversa, ovato-cuneata, albida epidermide stramineâ posticè incrassatâ et fuscâ induta; vertice ferè mediano, acuto; latere anteo angustato, compresso, subadscendente; latere postico dilatato, truncato, hiantè; areâ dorsali posticâ lanceolatâ, excavatâ: intus polita, candida; foveâ ligamentali perobliquâ; dente V-formi tenui, elongato; dentibus lateralibus crassis.

Long.  $3\frac{1}{4}$ ; lat. 1; alt.  $2\frac{1}{4}$  poll. Mazatlan, *Lieut. Green*; San Pedro, *Maj. Rich.*

[This species agrees so nearly with *M. falcata*, Gd., that until a direct comparison is made it may be considered as synonymous. *M. falcata*, however, was found at Puget's Sound.]

MACTRA MENDICA [*Gnathodon trigonum*, Petit; Journ. Conchyl-iol., May, 1853].

LUTRARIA UNDULATA. T. candida, papyracea, ovata, posticè lians, nisi propè marginem posticum concentricè undata, concinnè rugosa; apicibus vix anticis; latere antico rotundato; latere postico angustato, compresso, ad apicem rotundato; margine dorsali declivo, rectiusculo, costâ submarginali munito.

Long.  $2\frac{1}{2}$ ; alt. 2; lat.  $1\frac{1}{4}$  poll. Inhabits La Paz, Lower California, *Lieut. Green.*

Differs from *L. canaliculata*, Say, of South Carolina, in its strictly ovate form, in having the beaks anterior, in having the posterior half less compressed and more gaping, and in the acute ridge bordering the posterior margin. [The figure of *Macra elegans*, in the Tankerville Catalogue may have been intended for the same shell.]

LUTRARIA VENTRICOSA. T. tenuis, fragilis, ventricosa, ovato-cuneata, alba, epidermide stramineâ rugis remotis radiatâ induta; apicibus vix anticis, tumidis; latere antico angustato, compresso; latere postico dilatato; facie dorsali valdè declivi, angulo obtuso limitatâ, aream latam concavam efformante lineâ submarginali partitam: intus alba, punctis nitidis notata.

Long.  $3\frac{3}{4}$ ; lat.  $1\frac{1}{4}$ ; alt. 3 poll. Inhabits Mazatlan, *Lieut. Green.*

This would at first sight seem identical with *L. carinata*, from the coast of Carolina and Florida. But it is more ventricose, less solid, the beak more arching, the region of the posterior margin excavated, and the posterior umbonal ridge obtuse and destitute of a crest. A small African species (*Macra albida*) is a miniature of this shell. [It has been thought, by some, to be *M. exoleta*, Gray (1837); but I think it is not.]

AMPHIDESMA [Semele] FLAVESCENS. T. subrotunda, compressa, striis concentricis lamellosis decussatis insculpta, aurantia demum albida et epidermide fuscâ induta; apicibus medianis, acutis, haud elevatis; areâ dorsali anticâ excavatâ, posticâ lanceolatâ, concavâ, lineâ limitatâ; intus flavo-tincta punctis nitidis notata; sinu siphonali spatulato, striis crebris divergentibus insculpta; foveâ ligamentali profundâ, elongatâ; dente laterali antico ad apicem approximato.

Long.  $2\frac{3}{8}$ ; alt.  $2\frac{1}{8}$ ; lat.  $1\frac{1}{4}$  poll. San Diego. *Lieut. Green.*

Usually found about half the above size; the concentric lamellæ become worn off and more irregular towards the margin. The in-



terior is faintly tinted yellow when young, but very richly so when old. It is near *A. corrugatum*, Sowb.

**DONAX OBESUS.** *T. parva*, solida, ovato-cuneata, ventricosa, nitida, radiatim leviter striata, coloribus albidis et fulvidis omnino vel radiatim picta et plerumque zonis violaceis ornata; angulo postero-dorsali rectangulari; facie posteriori cordiformi, subtriangulari; latere antico angustato, citò rotundato; margine ventrali denticulato, posticè coarctato: intus alba, vel flavesceus, violaceo nubeculata, ad marginem dorsalem fuscata.

Long.  $\frac{9}{10}$ ; alt.  $\frac{6}{10}$ ; lat.  $\frac{4}{10}$  poll. San Diego. *Lieut. Green.*

In general appearance, especially as to striation and posterior area, it is much like *D. anatinum*; but the angle at the apex is more nearly a right angle, the anterior margin is less acutely rounded, the striæ are none of them punctate; some of the small specimens are very tumid. The coloration is quite various.

**TELLINA MINIATA.** *T. transversa*, ovata, tenuis, compressa, valdè hians, concentricè striata, erubescens; apicibus ante-medianis; latere antico semiovali; latere postico ovato-triangulari; margine ventrali sub-pendulo: intus miniata: cardo dentibus duobus divergentibus utrâque valvâ instructus; nymphis conspicuis.

Long. 2; lat.  $\frac{5}{8}$ ; alt.  $1\frac{1}{4}$  poll. Inhabits San Juan. *Lieut. Green.*

Compared with the analogous West India species, *T. rosea*, it is longer, more delicate, less convex, more inequilateral, more acuminate posteriorly, the ventral and posterior margin less arcuate: color much more roseate externally, and intensely red internally; hinge in that species with but a single tooth and the vestige of one at its side. [It is described as *sanguinolaria purpurea*, Desh. (1854)].

**LUCINA [Diplodonta] ORBELLA.** *T. parva*, subglobosa, tenuicula, albida, concentricè inequaliter striata: apicibus medianis, haud eminentibus, absque lunulâ anticâ; lateribus ferè symmetricis; intus alba. Cardo valvæ dextræ dentibus duobus quorum antico minore — valvæ sinistræ dentibus duobus quorum antico bifido, postico perobliquo, instructus; dentibus lateralibus nullis; cicatricibus leviter impressis, palleali serie punctorum composito.

Long.  $\frac{4}{5}$ ; alt.  $\frac{6}{8}$ ; lat.  $\frac{1}{2}$  —  $\frac{5}{8}$  poll. San Diego. *Lieut. Green.*

The size and globose form of this shell recalls *L. columbella*, Lam. (*L. Adansonii*, D'Orb.); but the valves are much less solid, the beaks less elevated, and have no area on either side of them; and the surface is not lamellar. *L. globularis* may be more like it. Some specimens are nearly perfect spheres, and all are very convex lenses.

**TELLINA (Strigilla) FUCATA.** *T. carnariæ* simillima, sed rotundior, striis rarioribus, latioribus et magis angulatis, haud undulatis insculpta; intus omnino miniata.

The species named *Tellina carnaria* is one of those which have been regarded as occurring in widely separated seas, in some of its varieties. I am inclined to think that upon close examination they may be fairly separated, and I have removed the Pacific shell on account of the marks designated above. The interior is throughout deep carmine, and not roseate passing into white at the margin, as in *T. carnaria*; the striæ are less numerous and deeper cut, and their angle of flexure is more acute, so that on the disk they are more vertical, and become crowded and confused at the margin.

ARTHEMIS SACCATA [is *Cyclina subquadrata* Hanley (1845)].

CARDIUM LUTEOLABRUM. T. magna, ovato-globosa, posticè truncata, albida epidermide tenui lutescente induta; apicibus submedianis, tumidis, contiguis; valvis radiatum costatis nisi ad marginem dorsalem anticalem; costis 42 rotundatis, canali profundo sejunctis, et aculeis prostratis (postremis fornicatis), ad angulum anticum armatis: intus alba, dentibus marginalibus luteo tinctis.

Long.  $3\frac{1}{4}$ ; alt. 3; lat.  $2\frac{1}{4}$  poll. Inhabits San Diego. *Lieut. Green.*

This resembles *C. pseudolima*, and has been regarded as such; but the position of the spines at one angle of the ribs instead of along the middle, and the color of the marginal lip, which in that shell is roseate, may alone distinguish them. It has also a more rounded outline and more globular form, and the ribs are more numerous; the grooves between the ribs are deeper.

ANODON CICONIA. T. solidula, transversa, oblongo-ovata, ventricosa, epidermide lutescente-corneâ induta; apicibus ad trientem anticum longitudinis positis; latere antico angusto, rotundato; latere postico dilatato, ad apicem acuto; margine dorsali haud angulato; margine ventrali rectiusculo, anticè hiantè; declivitate postico tumido, haud angulato; margarita ex ochraceo incarnata, demum argentea: cavositas apicalis ampla.

Long. 4; alt.  $2\frac{3}{8}$ ; lat.  $\frac{1}{4}$  poll. Mexico? *Lieut. Green, Maj. Rich.*

It resembles *A. anserina*, from Brazil; it is thicker in substance, more tumid on the posterior half, and the epidermis and nacre are quite differently colored. It is more like *A. implicata* than any other North American species. [Some have thought it might be *A. glauca*, Valenc.]

LITHODOMUS [Lithophagus] FALCATUS. T. fragilis, sub-cylindracea, falcata, posticè ad declivitatem umbonalem valdè angulata, margaritacea epidermide crassâ castaneâ rugis interdum bifurcatis corrugatâ induta, apicibus ad octantem anteriorem positis, valdè involutis; latere antico dilatato, subgloboso; latere postico arcuato, coarctato-acuminato, supernè fimbriato.

Long. 3; alt. et lat.  $\frac{1}{2}$  poll. Monterey, in indurated marly clay. *Maj. Rich.*

The slender, falcate, and angular form of this shell clearly distinguishes it from all other species. [A specimen in the cabinet of Mr. Cuming, considered as coming from New Zealand, has been described by Philippi under the name of *Lithophagus Grunerii*. The resemblance to our shell is very great if not identical. An error as to the locality may have been made.]

**MYTILUS GLOMERATUS.** T. parva, solidula, arcuatim oblongo-ovata, posticè obtusa, nitida, ex indico nigrescens; apicibus remotis, excurvatis; valvis ventricosis, obliquè subangulatis; margine ligamentali recto demum subitò arcuato; margine ventrali recto vel excurvato; cardinis alterâ valvâ dentibus duobus, alterâ tribus; intus argentata, ad limbum nigra; cicatricibus profundis.

Long.  $\frac{5}{8}$ ; alt.  $\frac{3}{8}$  poll. San Francisco. *Maj. Rich.*

A very curious species, clustering on sea-weed in the most crowded manner, so that two adjacent specimens sometimes wear each other nearly through, from friction in opening and shutting. This circumstance, with the strong hinge and deep cicatrices, show that the specimens are mature. The byssus is coarse, wax yellow.

**LIMA TETRICA.** T. solida, obliquè ovato-triangularis, albida, costis radiantibus ad 18 squamis semi-erectis posticis longioribus armatis, horrescens; apicibus acutis, elevatis, remotis, muriculatis; margineli byssali rectilineari, hianti; areâ cardinali latâ, validâ; foveâ ligamentali minimè profundâ, costâ transversali suffultâ.

Long.  $1\frac{1}{2}$ ; alt.  $1\frac{1}{8}$ ; lat.  $\frac{1}{2}$  poll. Gulf of California, La Paz. *Maj. Rich.*

Compared with *L. squamosa*, it is narrower and more compressed; the dorsal and ventral margins are less broadly rounded; the scales are more crowded, twice as long, inflexed at their points, and much more developed at the dorsal margin; there are no striæ on the dorsal area. The remarkable brace or rib under the ligament pit, by which a deep cavity at the apex is formed, is remarkable, but possibly accidental.

**AVICULA STERNA.** T. solidula, badia radiis pallidis ornata; epidermide cinereâ serratim fimbriatâ induta; apicibus ad quadrantem anteriorem positis; alâ semicirculari, modicè obliquâ, declivitate umbonali tumido, abrupto; caudâ longissimâ, gracili; auriculis magnis, radiatim striatis; fissurâ byssali profundissimâ, acutangulari; margarita argentata, valdè iridescens; limbo fusco-marmorato.

Long.  $2\frac{1}{2}$ ; lat.  $1\frac{1}{4}$ ; alt.  $\frac{5}{8}$  poll. Inhabits Mazatlan. *Lieut. Green.*

Has the general appearance of *A. semi-sagitta*, but the wing is less oblique and curves directly into the cauda without any sinus; the

byssal sinus is deeper and much more acute, making a trapezoidal auricle. The cauda is much shorter in *A. Tarentina* and the wing much more oblique. It most nearly resembles a Florida species, but in that the byssal angle is obtuse, the auricle triangular, the cauda shorter.

☞ Vol. v. 126, (February, 1855.)

**PEDICULARIA DECUSSATA.** T. solida, variabilis, plerumque ovalis, striis radiantibus et volventibus concinnè decussata; apice laterali, obtuso: apertura crescentica; labro incrassato admodum revoluta; columellâ rectâ, acutâ, sulcatâ.

Long.  $\frac{1}{8}$ ; lat.  $\frac{1}{8}$  poll. Inhabits coast of Georgia, where it was dredged in the Coast Survey at a depth of 400 fathoms.

This genus was established by Swainson on a single species from Sicily, *P. Sicula*, which Mr. Gray says had been described by Philippi as *Thyreus paradoxus*. Its well-marked apex is on the left side, as in *Concholepas*, which, in miniature, it greatly resembles, and to which Mr. Gray thought it to be allied. I should rather approximate it, for its structure and habits, to *Leptoconchus madreporarum*, Gould (*Purpura monodonta*, Quoy). The shelf on the left is not simply a partition, but a true columella, which, if broken across, shows an entire volution within. There is always found a small notch or canal at both extremities of this columella.

**HELIX ÆRUGINOSA [ARROSA].** T. globoso-conica, solidula, umbilicata, indentata et minutissimè granulata, coloribus rufo-olivaceis et flavis variegata et fasciâ fuscâ cincta; anfractibus 7 convexis: apertura rotundato-ovata; labro reflexo, incarnato; fauce lividâ.

Diam.  $1\frac{2}{3}$  poll.; axis,  $\frac{4}{5}$  a  $\frac{9}{10}$  poll. Brought from San Francisco by Dr. Bigelow.

Has the general form and coloring of *H. Townsendiana*, Lea, and the aperture of *H. tudiculata*, Binney. The former has a different aperture, revolving striæ, and is destitute of a band; the latter is not umbilicated; and neither have a granulated surface. [The name first given was preoccupied by Pfeiffer.]

**HELIX INFUMATA.** T. magna, discoidea, biconvexa, ad peripheriam obtusè carinata, latè umbilicata, supra infumata et rugis minutis obliquis asperata, infra nigerrima, nitida et minutissimè granulata; anfr.  $6\frac{1}{2}$  convexiusculis: apertura rhomboidea; labro rufo, basi reflexiusculo; fauce sericeâ, lilacinâ, propè labrum fuscescente.

Diam.  $1\frac{1}{2}$ ; axis,  $\frac{4}{5}$  poll. Brought from San Francisco by Dr. Bigelow.

Has about the form and color of *H. plicata*, Born, without its complicated aperture. It might at first be mistaken for *H. Nuttallii* Lea, but is distinguished by its lenticular form, smoky black color, and its peculiar rasp-like and granulated surface.

**PHYSA BULLATA.** T. magna, ovato-ventricosa, tenuis, fragilis, lucida, cornea: spira elevata, acuta; anfr. 6, ultimo inflato; suturâ benè impressâ: apertura latè ovata,  $\frac{5}{6}$  long. testæ adequans; labro tenui, rubo submarginato; columellâ valdè flexuosâ, callo indutâ.

Long. 1 poll.; lat.  $\frac{1}{2}$  ad  $\frac{1}{2}$  poll. Found in Oregon, by Dr. J. G. Cooper.

Distinguished by its large size, inflated form, and delicate structure; sometimes the form is somewhat cylindrical. It accords most nearly with Haldeman's pl. 3, fig. 9, which was given him as *P. Sayi* Tappan. It is much more delicate, and less polished than *P. heterostropha* Say, and the aperture is less elongated.

**PHYSA HUMEROSA.** T. subrhomboidea, solidula, polita, albida: spira acuta; anfrac. 5 tabulatis: apertura  $\frac{1}{2}$  ad  $\frac{2}{3}$  long. testæ adequans, posticè rotundata; labro expanso; columellâ vix plicatâ, callosâ, ferè perforatâ.

Long.  $\frac{1}{2}$  ad  $\frac{7}{10}$  poll.; lat.  $\frac{3}{8}$  poll. Found by Dr. Thomas H. Webb, and by W. P. Blake, in the Colorado Desert and at Pecos River.

The broadly tabulated whorls, with the acute, elevated spire, and foldless pillar clearly distinguish this species. It is like *P. tabulata*, Gould, and the variety figured by Haldeman, as *P. ancillaria*, (fig. 7,) which he regards as a monstrosity; the deep suture and simple columella distinguish it from that species.

**PHYSA VIRGATA.** T. modica, solidula, glabra, elongato-ovata, cinerea olivaceo longitudinaliter virgata: spira elevata, acuta; anfrac. 4-5 benè discretis: apertura lunata,  $\frac{2}{3}$  longitud. testæ adequans; columellâ modicè plicatâ, valdè callosâ; faucibus luteo-rufescentibus.

Long.  $\frac{2}{3}$ ; lat.  $\frac{1}{4}$  poll. River Gila, near San Diego. Dr. Thomas H. Webb.

Quite remarkable as being the only species yet known with variegated coloration. The stripes are found on some part of every shell, and many are prettily ornamented throughout. In size and proportions it may be compared with *P. microstoma*, Hald.

**PLANORBIS AMMON.** T. magna, discoidea, subconica, subtiliter striata; latere sinistro latè et profundè concavo, anfractus 4 obtusè carinatos exhibente; latere dextro concavo, anfr.  $2\frac{1}{2}$  rotundatas monstrante: apertura ovato-triangularis, interdum utroque valdè expansa.

Axis,  $\frac{5}{8}$  ad 1; diam.  $\frac{1}{4}$  ad  $\frac{1}{2}$  poll. Cienaga Grande, the Colorado Low Desert. T. H. Webb and W. P. Blake.

Differing greatly in size and the development of the aperture, all agree in the peculiar slope of the outer volution, giving them a conical or dome-shaped form when lying on the left side. Fully developed specimens are much like *P. corpulentus*, Say, but the shape of the volutions and aperture differ widely.



**PLANORBIS GRACILENTUS.** T. discoidea, compressa, albida, cinnè striata; latere dextro planulato; latere sinistro modicè concavo; utrinque anfr. 4 rotundatis, externo ad peripheriam obtusè angulato: apertura perobliqua, rotundato-ovalis. Axis  $\frac{1}{8}$ ; diam.  $\frac{1}{2}$  poll. The Great Colorado Desert, low lands. Dr. T. H. Webb.

No North American species, of equal size, can be compared with this well-marked, wheel-shaped species. Very small specimens are like very large ones of *P. deflectus*, Say. [The figure of *P. Halde-manni* Dunker, (1841,) looks much like it.]

☞ Vol. v. 129, (March, 1855.)

**AMNICOLA PROTEA.** T. elongata, gracilis, variabilis; anfr. 7-8 rotundatis, profundè discretis, simplicibus vel liris volventibus et costis longitudinalibus variè ornatis et clathratis: apertura ovata; labro continuo, simplici, anfractum penultimum vix attigente. Long. (exempli maximi) 0.3; lat. 0.1 poll. Colorado Desert (Gran Jornada). Dr. T. H. Webb; W. P. Blake.

Peculiar from its large size and slender form, though differing greatly in relative proportions. It differs from all others, in being variously sculptured with revolving ridges and longitudinal folds, like most Melaniæ. [Mr. Conrad has described it under the name of *Melania exigua* (read February, 12, 1853),].

**AMNICOLA LONGINQUA.** T. parva, elongato-ovata, glabra; apice obtuso; anfr. 5 rotundatis; suturâ profundâ: apertura elliptica, posticè rotundata; columellâ valdè arcuatâ sub-perforatâ. Long.  $\frac{1}{8}$ ; lat.  $\frac{1}{10}$  poll. Found in the Colorado Desert (Cienaga Grande), by W. P. Blake.

Much like *A. Cincinnatiensis*, Hald. in form; or like *A. galbana* or miniature specimens of *Palud. ponderosa*, Say. It has a bleached or chalky color, probably from exposure. The region is immersed a portion of the time, and dry the remainder; and was once, apparently, an extensive marsh, or shallow lake.

☞ Vol. v. 228, (Oct. 1855.)

**UNIO BRACTEATUS.** T. transversa, oblongo-ovata, solidula, sub-ventricosa, tenuiter striata, flavo-viridis viridi saturatiori radiata, anticè rotundata, posticè subacuta; umbonibus ad trientem anteriorem sitis, elevatis, utroque angulatis; marginibus dorsalibus et ventralibus lentè arcuatis; dentibus cardinalibus perobliquis, compressis, duplicibus; dentibus lateralibus arcuatis; margaritâ argenteâ aureo bracteâtâ; limbo iridescente. Long.  $2\frac{1}{2}$ ; lat. 1; alt.  $1\frac{2}{3}$  poll. From Llanos River, Upper Texas. Dr. T. H. Webb.

In size, shape, and color, like *U. Ogeecheensis*, but the nacre and position of the beaks are different. *U. Hydranus* is more inflated,

more inequilateral, naere pearly white. *U. Menckeanus* is more compressed, tip more acute, tooth in left valve deep cleft.

**UNIO PETRINUS.** T. solida, ovato-quadrata, subequilateralis, anticè acutè rotundata, posticè latè truncata, subtus vix arcuata, prope marginem dorsalem posticum plicis obliquis minimis ornata; umbonibus modicis, subplanulatis; epidermide dilutè flavo-viridi; dentibus cardinalibus robustis, pyramidatis, lateralibus curtis; margaritâ albâ. Long.  $1\frac{1}{2}$ ; alt.  $1\frac{1}{4}$ ; lat.  $\frac{3}{4}$  poll. Llanos River, Texas. Dr. T. H. Webb.

May be compared to *U. Lamarckianus*, Lea, (= *U. Aberti*, Conr.) It is less compressed, apices less acute, and less angular; the posterior altitude is greater, the posterior dorsal margin being less declivous, but as the posterior truncation is less decided, the length is greater compared with the height; the surface is irregular, but destitute of granules or nodules.

**UNIO MANUBIUS.** T. transversa, elongata, subarcuata, subventricosa, anticè angustata, posticè acuta, margine dorsali arcuato in marginem posticum desinente; disco rudi, epidermide nitido-corneo induto; dentibus cardinalibus compressis, triangularibus, ad marginem ferè parallelis; d. lateralibus remotis, arcuatis; margaritâ argentatâ, talcosâ. Long.  $3\frac{3}{4}$ ; alt.  $1\frac{7}{8}$ ; lat.  $1\frac{1}{4}$  poll. Chihuahua, sixty miles from Camp Ringgold. By Dr. T. H. Webb.

Allied to *U. declivis*, Say = *geometricus*, Lea, in which the posterior extremity is recurved and angular, rather than decurved with rounded angles; and the surface is dead and dusky. In our shell, the anterior extremity is more prolonged, and much more slender. It is also intermediate between *U. obesus*, Lea, and *U. camptodon*, Say.

**ANODON HORDA.** T. tenuis, transversa, elongato-ovata, ventricosa, dilutè cornea, viridi nubeculata, anticè angustata, subacuta, posticè subtruncata, dorso excavato, declivitate umbonali obtusè angulato, submarginato, umbonibus obtusissimis, pallidis, tenuiter undulatis, ad trientem anteriorem sitis; margaritâ argenteâ. Long.  $3\frac{1}{2}$ ; lat.  $1\frac{1}{2}$ ; alt.  $1\frac{5}{8}$  poll. Comanche Creek, Texas. Dr. T. H. Webb.

Remarkable for the broad, inflated, pale beaks, presenting no distinct apex. In size and form, it might, at first sight, be taken for *U. anodontoïdes*. It approaches to *A. ferruginea* and *A. Dunlapiana*, but differs in its proportions.

**CYCLAS NOBILIS.** T. magna, solida, ovato-rhomboidea, utrinque truncata sed posticè obliquius; umbonibus anticis, tumidis; margine dorsali utrinque arcuatim declivibus; margine ventrali arcuato; valvis remotè et profundè sulcatis; epidermide flavescente; dentibus cardinalibus minimis; intus pallida. Long.  $\frac{1}{2}$ ; lat.  $\frac{1}{4}$ ; alt.  $\frac{3}{8}$  poll. Found near San Pedro, California. Dr. Webb.

Has a general resemblance to what is usually regarded as *C. similis*, but is more solid, more inequilateral, more obliquely truncated posteriorly, beaks more conspicuous, color paler, grooves coarser, cardinal teeth less developed. *C. solidula*, Prime, must also nearly correspond in its characters.

☞ Vol. vi. 11, (October, 1856.)

HELIX [Corilla] REPERCUSSA. T. sinistrorsa, discoidea, supra planulata, infra concava, plicato-striata et lineis volventibus supernè insculpta, castanea; anfrac. utroque 6 +, ultimo vix angulato, propè aperturam deflecto: apertura despiciens, obliquè lunata, peritremate reflexo, posticè callo angulato juncto; lamellis palatinis duabus intrò volventibus, quarum unâ ad angulum inconspicuâ. Diam. 1; alt.  $\frac{3}{10}$  poll. From Tavoy and Mergui. *Rev. J. Benjamin.*

Compared with *H. anguina* [achatina], it is less distorted, more elevated, concave beneath only, whorls more numerous and more closely coiled, obtuse at periphery, not marbled in coloring. [Belongs to the first section of the genus *Plectopylis* Benson.]

HELIX RAMENTOSA. T. suborbicularis, depressa, tenuis, perforata, fulva fasciâ fuscâ albo marginatâ ad peripheriam cincta, lineis incrementalibus et sulcis decussantibus pariter obliquis granulata; anfr.  $5\frac{1}{2}$  convexiusculis, ultimo obtusè angulato; sutura valdè impressa: apertura obliquè oblongo-ovata; peritremate posticè acuto, sensim versus umbilicum reflexo, albo; fauce rufescente. Axis half an inch; diameter  $\frac{4}{5}$  inch. California; from the cabinet of *Dr. W. Newcomb.*

Agrees well with *H. zonata*, Pfr., in which the umbilicus is larger, and no allusion is made to the rasp-like surface.

HELIX DAMASCENUS [is *H. pandoræ*, Forbes (1850)].

BULIMUS LEPIDUS. T. parva, plerumque sinistrorsa, vix perforata, ovato-conica, elevata, polita, citrina; anfr. 6 convexis, ultimo ventricosus; suturâ bene impressâ: apertura subcircularis; peritremate albo, reflexo, ad columellam dilatato, extremitatibus approximatis. Axis,  $\frac{7}{8}$ ; diam.  $\frac{1}{2}$  poll. Mergui Islands. *Rev. J. Benjamin.*

A pretty shell, grouping with *lævus*, *Adamsii*, and *moniliferus*, but smaller, proportionally shorter and more ventricose, and differing entirely in coloring, texture, and the broadly rounded form of the aperture.

BULIMUS LAUTUS. T. subperforata, obliquè ovato-triangularis, tenuis, eburnea longitudinaliter rufo-lineata; suturis pallidis; anfr. 6, ultimo ad peripheriam in carinam compresso, subtus versus umbilicum declivi et plicato: apertura obliquè triangularis, ad angulum laterali-basalem canaliculata; peritremate expanso, intus incrassato, albo, rosaceo vividè submarginata.

Length, one inch; breadth, half an inch. From the mountains of Equador, near Quito; by Joseph P. Couthouy, Esq.

A most remarkable and beautiful shell, belonging to the peculiar group of Bulini, with angulated apertures, found on the Andes, near Chimborazo. The basal angle stands off further from the axis in this than in any other species yet figured. *B. semiclausus* is banded, the basal angle rounded, the spire less acute. *B. Knorri* is more elongated, and the basal angle nearly axial. *B. murrinus* and *B. fabrefactus* are also allied.

**STREPTAXIS PROSTRATA.** T. pupoidea, valdè distorta, tenuis, dilutè cornea; anfr. 6, posticis lateraliter appositis, ad peripheriam acutè angulatis, antico subtus glabrato: apertura longior quam lata, laminà palatali instructa; peristomate reflexo; umbilico crescentico, satis magno. Long.  $\frac{3}{8}$  poll.; lat.  $\frac{1}{4}$  poll.

Found by Dr. G. A. Perkins, at Cape Palmas, and at Rockbookay, twenty miles in the interior, under dead leaves. He says, "the animal is beautiful red, yellow, and orange." It is of the size of *S. aberrans*, but is more eccentric and more compressed.

**STREPTAXIS ELISA.** T. modica, valdè distorta et compressa, supra tenuiter striata, infra glabrata et latè perforata; spira discoidea; anfr. 7 + juxta suturam profundam angulatis, ultimo lateraliter valdè protenso: apertura transversa, subquadrata, peritremate everso, intus denticulis quatuor cruciatim dispositis armato, quinto minimo interdum posticè addito. Length, half an inch; height, one quarter inch. From an island in the Mergui Archipelago; *Rev. J. Benjamin*.

In size and form most like *S. Souleyetana*, but is even larger and more depressed; aperture much as in *S. pyriformis*, but more elongated, and the posterior denticle is very small and marginal; the shell is double in size.

**STREPTAXIS EXACUTUS.** T. grandis, omnino dislocata, latè umbilicata, pallidè cornea, supra acutè lirata, infra polita: spira discoidea lateralis; anfr. 6 + penultimo posticè valdè protruso, exacuto, apicalibus convexiusculis, benè discretis: apertura subquadrata; peristomate albo, reflexo, posticè angustato et sinuato; palato laminà subcentrali et alterâ inconspicuâ ad angulum munito. Length,  $\frac{1}{2}$ ; breadth,  $\frac{3}{10}$  poll. Found by *Rev. F. Mason*, in Burmah.

More solid and compressed than *S. elisa*, with no denticles on the peritreme, and with the edge of the penult whorl, forming the posterior end of the shell, very sharp.

**CLAUSILIA VESPA.** T. solida, sinistrorsa, vespæformis, deflecta, lævis, intensè rufa; anfr. 6, anteriori raptim attenuato, proximo corpulento, apicalibus citò decreescentibus; sutura impressa, vix marginata: apertura ovata; columella biplicata; peritremate latè reflexo, rufo. Long. 1;  $\frac{2}{10}$  poll. Inhabits Tavoy. *Rev. Francis Mason*.

This very singular, wasp-like shell is allied to *C. insignis*, *Philippii*, *Cochinchinensis*, &c., but distinguished from all by its peculiar form.

**CYCLOSTOMA POLLEX.** *T. polliceiformis*, distorta, subumbilicata, rufescens; anfr. 6, ultimo ventraliter planulato, dorsaliter gibboso; anfract. posticis nonconformibus, rotundatis, dextrorsum nutantibus: sutura profunda, marginata: apertura circularis, posticè truncata; peritremate duplici, modicè reflexo. Long.  $1\frac{1}{4}$ ; lat.  $\frac{5}{8}$  poll. Tavoy, British Burmah. *Rev. Francis Mason.*

This singular shell may possibly be *Cyclostoma chrysalis*, Pfr., but is larger, destitute of lines and indentations. That shell is said to come from Arva, (probably Ava.) *Megalomastoma Myersii*, Haines, is another species of the same type, but less distorted and more cylindrical.

These shells, coming from the same region, to which many others will doubtless hereafter be added, I regard as constituting a natural group, probably generic, for which I would propose the name **POLLICARIA**. Shell subperforate, chrysalidiform, ventrally flattened, spire leaning; aperture subcircular, truncate posteriorly within the peritreme.

**CYCLOSTOMA CUCULLATA.** *T. umbilicata*, depresso-conica, solidula, lineis incrementi et lineis volventibus tenuibus supernè insculpta, straminea ferrugineo tessellatim marmorata, et infra lineata, apice nigro; anfr. 5 rotundatis; suturâ profundâ: apertura (genuina) elliptica; peritremate reflexo, et cucullo lato unicolori obliquè truncato valdè protracto; fauce flavâ.

Diameter, exclusive of false lip,  $\frac{3}{10}$  in.; projection hood-lip,  $\frac{1}{4}$  inch; axis,  $\frac{5}{8}$  inch. From an island in the Mergui Archipelago; *Rev. Judson Benjamin.*

With the exception of the aperture, the shell is much like small specimens of *C. linguiferum*, or still more like *C. irroratum*, Sowb. Its remarkable hood is sufficiently characteristic.

**MITRA** [Scaphella] **FLORIDA.** *T. ovato-fusiformis*, solidula, albida ferrugineo nubeculata et lineis numerosis fuscis interruptis interdum albo articulatis cineta, quoad rostrum plicata et obliquè lirata; anfractibus 7 + ultimo spiram ter excedente, anticè angustato: apertura angusta, posticè acuta; labro acuto: columella sexplicata, plicâ postremâ proximam bis superante; intus alba.

Axis,  $1\frac{3}{4}$ ; greatest diam.  $\frac{3}{4}$ ; length of aperture,  $1\frac{1}{6}$  inch. Received from Dr. Edmund Ravenel, of Charleston, as from Florida. Another specimen, in the possession of Dr. Jay, was supposed to have come from the Philippine Islands.

Its characters are intermediate between *Mitra* and *Voluta*. It most resembles in form and coloring a small *Vol. antiquata*, but the markings are much more crowded and delicate.



**UNIO LEPIDUS.** *T. transversa*, elongato-ovata, tenuis, ventricosa, valdè inequilateralis; umbonibus tumidis, leviter undulatis, dilutè viridibus; disco olivaceo, vix radiato; latere antico rotundato, supernè angulato; latere postico ovato, marginibus arcuatis; dentibus cardinalibus erectis, lamellatis, fimbriatis; dentibus lateralibus, rectis, acutis; margarita argentata, posticè iridescente; cicatricibus anticis sejunctis.

Long.  $2\frac{3}{4}$ ; lat. 1; alt.  $1\frac{1}{2}$  poll. From a creek near Lake Munroe, Florida; *Dr. Henry Bryant*.

Very closely allied to *U. trossulus*, Lea, but is larger, more fragile, and the cardinal teeth are more compressed.

**UNIO CORUSCUS.** *T. parva*, solida, transversè ovata, ad dorsum lata, deorsum cuneata; umbonibus anticis valdè erosis; latere antico rotundato; latere postico acuminato; margine dorsali valdè declivi; margine ventrali lentè arcuato; epidermido piceo, nitente; dentibus cardinalibus obliquis, validis; dentibus lateralibus curtis, rectis; cicatricibus anticis sejunctis; margarita vividè cupreo-purpurea. Long.  $1\frac{2}{3}$ ; alt.  $\frac{7}{8}$ ; lat.  $\frac{2}{3}$  poll. River St. John's, near Lake Beresford, Florida; *Dr. Henry Bryant*.


Of the same type as *U. Buckleyi*, and might be thought the young; but it is more solid, less angular, is much darker colored, has a much more brilliant nacre and a stronger hinge; *trossulus* is less cuneate and has a white nacre, as has also *U. Brumbyanus*.

**TEREDO THORACITES.** *T. magna*, solida, subequilateralis, alba; valvis trilobatis; areâ anteriori maxima, anticè truncatâ, obtusè lanceolata, concentricè insculptâ; areâ intermediâ, uncinatâ, ad apicem obtusâ, apophysi valido intus suffultâ; areâ posteriori minimâ, lunatâ, supernè emarginatâ, incrassatâ; tuberculis cardinalibus magnis, uncinatis; apophysi subumbonali compresso, geniculato; ossicula siphonali pulpito mediano instructa, altero latere subulato, altero ligulato.

Length and height,  $\frac{1}{5}$  inch; breadth,  $\frac{3}{5}$  inch. Tavoy, British Burmah. *Rev. F. Mason* and *Rev. J. Benjamin*.

In size and solidity this exceeds any species yet described. It is chiefly characterized by the great size of the anterior area when compared with the posterior; the stilt-like form and great length of the pallets is also quite peculiar.

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**ARION FOLIOLATUS.** A. corpore depresso, fulvo, sulcis nigricantibus obliquè reticulato areolis inclusis foliosis; clypeo prælongo, lævi, fulvo, concentricè fusco-notato; aperturâ communi antemedianâ; tentaculis parvis, brevibus. Long.  $3\frac{1}{2}$  poll. Discovery Harbor, Puget Sound. *Dr. Pickering.*

**LIMAX COLUMBIANUS.** L. corpulentus, corpore elongato, posticè carinato, sordidè flavo, unicolore vel maculis atropurpureis nubeculato, tuberculis elongatis longitudinaliter dispositis tessellato; clypeo lato, anticè truncato; aperturâ communi posticâ. Long. 5.5 poll. Nisqually, *Mr. Dyes*; Discovery Harbor, Puget Sound, *Lieut. Case.*

Generally resembles *L. empiricorum*. It varies much in color, being sometimes entirely slate-color, and sometimes more or less mottled.

**LIMAX OLIVACEUS.** L. elevatus, retrorsum carinatus, plus minusve acuminatus, ex olivaceo purpurascens; papillis angustis elongatis obliquis reticulatus; clypeo curto, rotundato, concentricè rugoso; foramine antico; fronte reticulato; tentaculis cervicalibus elongatis, attenuatis, nigricantibus. Long.  $\frac{3}{2}$  poll. Paramatta, N. S. Wales. *Mr. Couthouy.*

Peculiar on account of its color and its very narrow, delicate, elongated papillæ. It is gradually attenuated both in height and breadth, terminating in a delicate point.

**LIMAX FULIGINOSUS.** L. abbreviatus, corpulentus, acutè carinatus, fuliginosus, sulcis remotis obliquis reticulatus, areolis reticulatis; clypeo ovali, posticè latiori, foramine pulmonali postico; capite parvo; tentaculis brevibus, ad apicem ferrugineis. Long. 2.5 poll. Bay of Islands, New Zealand, among turnips. *Dr. Pickering.*

Characterized by its sooty color. Dr. P. has no doubt that it is a native species.

**SUCCINEA [Omalonyx] EXPLANATA.** T. parva, tenuis, scutellæformis, rotundato-elliptica, penè evoluta, concentricè striata, luteo-cornea: spira marginalis, ferè nulla, omninò aperta; columellâ arcuatâ. Long.  $\frac{1}{4}$ ; lat.  $\frac{1}{5}$  poll. Island of Kauai. *Couthouy.*

Mr. Couthouy did not notice the animal, but labelled the shell "Testacella." The form of spire does not accord with that genus, but it seems to be an extreme modification of a small group peculiar to the Sandwich Islands.

**NANINA FRICATA.** T. rotata, tenuis, viridi-cornea, supernè convexiuscula, liris crebris radiantibus interdum furcatis insculpta, in-

fernè glabrata, umbilico lato, profundo, infundibuliformi perforata : anfr.  $4\frac{1}{2}$ ; suturâ impressâ : apertura rotundata ; labro simplici. Illawarra, New South Wales. *Drayton*.

Its lower face is like that of *H. olivetorum*, but the shell is more delicate, and the upper surface ridged with elevated lines, many of which bifurcate. [Pfeiffer doubts its being *Nanina*, on account of its umbilication.]

HELIX [Callicochlias] INTAMINATA. T. depresso-globosa, imperforata, tenuis, translucida, alba, epidermide tenuissimâ stramineâ induta : spira depressa ; anfr. 4 convexiusculis, ultimo subangulato : apertura rotundata, ampla ; columellâ planulatâ, acutâ ; labro everso. Diam. 1 ; axis  $\frac{2}{3}$  poll. From a tree, Island of Mangsi, Straits of Balabac.

Allied to *H. Valenciennesii* and *Broderipii*, but on the whole Pfeiffer accords with me that it is not to be united with any other species.

HELIX SPIRILLUS. T. parva, planorboidea, tenuis, diaphana, lævis, virescens : spira depressa, anfr. 5 convexiusculis arcuè volutatis, ad peripheriam rotundatis ; suturâ impressâ : apertura subcircularis ; labro albo, reflexiusculo ; columellâ callo subdentato munitâ. Diam.  $\frac{1}{4}$  ; axis,  $\frac{1}{10}$  poll. From the mountains beyond the valley of Amancaes, near Lima, under stones. *Couthouy*.

A miniature of *H. concava*, Say, having a peculiar protrusion of the lip, which is white and a little thickened. It may possibly be *H. trochilionides*, D'Orb.

HELIX CALCULOSA. T. parvula, hyalina, fragilis, nitida, lævigata, cornea, globoso-pyramidalis : spira depressa, anfr. 4 convexiusculis, ad peripheriam angulata et tenuissimè carinata ; infra convexa, regione umbilicali impressâ sed imperforatâ : apertura lunata ; labro simplici, margine internâ rotundatâ. Diam.  $\frac{1}{10}$  ; axis,  $\frac{1}{12}$  poll. Inhabits Tahiti. *Couthouy*.

Like *H. chersina* Say, but has an angular periphery, though it is less angular than *H. subtilissima*.

CINGULA [Paludestrina] PETENINGENSIS. T. minuta, sub-perforata, elongato-conica, tenuis, levis, cinereo-viridis ; anfr. 6 convexis ; suturâ profundâ : apertura lunata,  $\frac{1}{3}$  longitud. testæ adequans, antrorsum sub-producta ; labiis posticè interruptis. Long.  $\frac{1}{3}$  ; diam.  $\frac{1}{10}$  poll.

Found adhering to plants in brackish water, Lagoa de Peteninga, Rio Janeiro. *Couthouy*.

Allied to *C. minuta* Say. It is different from any of the small species figured by D'Orbigny.

Gen. PELEX [is gen. LATIA Gray, 1849].

P. LATERALIS [is *L. neritoides* Gray, probably].

**NERITA CRASSA.** *T. solidissima*, subglobosa, longitrorsum striata, spiraliter sulcato-costata (costis ad 30 rotundatis) fusco-cinerea, flammulis crebris angulatis obliquis variegata: spira prominula, ad apicem lutea; anfr. 4 rotundatis; suturâ impressâ: apertura parva, semicircularis; labro crassissimo, anciso, crenulato, intus sulcato, posticè unidentato; labio angusto, 8-plicato, plicis anticis bisectis; columellâ bidentatâ, dente antico minimo. Diam. 1; axis,  $\frac{3}{4}$  poll.

This is probably the most solid of all the Nerites. The variations in this genus are so numerous as to render specific distinctions doubtful. This is allied to *N. Guillouana* and *N. undulata*. The lip, number of teeth, and sulci and form of ribs differ from the former; the elevated spire, finer ribs, rugose column, and protruding lip characterize the latter.

**MARGARITA MAGELLANICA.** *T. depresso-conica*, solida, imperforata, polita, rufa interdum sordidè flavescens: anfr. 5-6 convexis, ultimo ad peripheriam sub-angulato: basis tumida: apertura ampla, subcircularis; columellâ rotundatâ vix arcuatâ angulum basalem cum labro efformante: faux vividè iridescens. Axis,  $\frac{5}{8}$ ; diam.  $\frac{2}{5}$  poll. Orange Harbor, Tierra del Fuego. *Couthouy*.

It varies in being of a paler color, smooth surface, less angular periphery and by having vestiges of epidermis.

**MARGARITA PERSICA.** *T. parva*, solida, depressa, ovato-conica, levigata, nitida, intensè purpureo-incarnata: anfr. 5 convexiusculis, supernè declivibus, ad suturam confluentibus: basis convexa, medio indentata, pallida; columellâ latâ, excavatâ, arcuatâ: apertura circularis: faux vividè iridescens. Diam.  $\frac{1}{2}$ ; axis,  $\frac{3}{10}$  poll. From among Cape Horn Shells.

Remarkable for its excavated, crescentic pillar, much as in *Lacuna*; in this it differs chiefly from the last species.

**PURPURA OSTRINA.** *T. solida*, rudis, rotundato-ovata, patula, exalbida, purpurascens interdum fasciis geminatis rubidis cineta: spira brevis, conica; anfr. 4-5 obtusè angulatis, convexis, ultimo amplissimo, ventricosus: apertura rotundata-ovalis, livido-tincta; labro simplici patente; columellâ explanato-planulatâ; sinu siphonali angusto, minimè profundo, brevi. Long. 1; diam.  $\frac{3}{5}$  poll. Obtained at Killimook, Oregon.

Allied to *P. lapillus* and *Freycineti*, distinguished by its smoothish surface, coloration, large and patulous aperture and flattened columella.

**NASSA LILACINA.** *T. ovato-conica*, levigata, lilacina; spira acuta, anfr. 7-8 convexis, ad suturam crenulatis, supernis plicatis et striis volventibus cinetis, ultimo dimidiam longitudinis testæ adequante; basi spiraliter striata: apertura lunata; labro simplici; sinu siphonali

amplo, brevi. Long.  $\frac{3}{5}$ ; lat.  $\frac{1}{4}$  poll. Found on a coral ledge, Clermont Tonnerre, Paumotu Islands.

Very much like *N. lurida*.

**LOTTIA ONYCHINA.** T. deformis, tenuis, depressa, rotundato-ovata, costis obsoletis radiantibus ad 20, et gradibus incrementi confertis laxis notata; apice subcentrali, eroso: extus cinerea, interspatiis costarum plerumque fusco-olivaceis: intus lutea castaneo variegata; margine acuto, irregulari. Long.  $\frac{4}{5}$ ; lat.  $\frac{1}{2}$ ; alt.  $\frac{1}{4}$  poll. Probably from the coast of Peru, though marked Rio Jauviro.

They resemble depressed specimens of *L. scabra*.

**RIMULA [Puncturella] COGNATA.** T. conica, alba, radiatim costulata; apice incurvato: apertura rotundato-ovalis. Dredged in 16 fathoms water, Orange Harbor. *Couthouy*.

Similar to *R. conica*, D'Orb., but less elevated, and the ribs more regular.

**CAPULUS SAGITTIFER.** T. parva, tenuis, lucida, candida, semiglobosa, apice mediano, dextrorsum inclinato, acuto: extus lineis lacteis radiantibus, papillas sagittatas gerentibus insculpta: apertura sub-circularis: cavositas profunda: ciliaribus bene impressis et septo filiformi junctis. Diam.  $\frac{1}{4}$ ; alt.  $\frac{1}{10}$  poll. Habitat uncertain.

Well distinguished by its radiating lines, made up of chains of arrow-heads.

**PERONIA IRRORATA.** Corpus elongato-ovale, convexum, flavo et olivaceo nubeculatum, granulis confertis instructum, marginibus dilatatis, plicis radiantibus ad decem quasi denticulatis: caput protractum, lateraliter dilatatum, cœruleum; tentaculis curtis, gracilibus, capitatis, cœruleis: solea trientem latitudinis corporis adequans. Long. 1; lat.  $\frac{1}{2}$ ; alt.  $\frac{1}{4}$  poll. In tide-pools, Bay of Islands, New Zealand. *Drayton*.

May be compared with *P. patelloidea*, but differing in color, form, marginal projections, &c. [Genus *Onchidella*; also two next species.]

**PERONIA ACINOSA.** Corpus elongatum, sub-cylindraceum, posticè angustatum, ad extremitates rotundatum, papillis beryllinis ornatum: solea dimidiam longitudinis corporis adequans, fusco-violacea; tentacule cyanæ. Long.  $1\frac{1}{2}$ ; lat.  $\frac{2}{5}$  poll. Inhabits Feejee Islands.

Remarkable for its mulberry-like surface and amethystine color.

**PERONIA CORPULENTA.** Corpus linguiforme, convexum, suprâ cyaneum, infrâ olivaceum, tuberculis magnis elevatis rotundatis (minoribus circumjacentibus) instructum; veli marginibus undulatis; cucullo cordato; tentaculis elongatis, linearibus, viridibus: solea pallida  $\frac{2}{3}$  longitudinis corporis adequans. Long.  $2\frac{1}{2}$ ; lat. 1; alt.  $\frac{1}{2}$  poll. Found at Direction Island, one of the Feejees.



**APLYSIA PULMONICA.** A corpore oblongo, posticè sacciformi, fusco-viridi venis fuscis reticulato: apertura siphonalis parva; caput obtusum, vix bilobatum; tentaculis anticis curtis, auriformibus; tentaculis cervicalibus conicis, acutis, obscure annulatis. Long. 6; alt. 2 poll. Obtained at Tutuilla, Samoa Islands. *Couthouy*.

Generally resembles *A. tongana*, Quoy and Gaim., but their figure shows the posterior ruffled disc of the sub-genus *Dolabella*.

Genus **STYLOCHEILUS.** Corpus limaciforme, lanceolatum, retrorsum attenuatum, cirrhigerum; caput liberum, tentaculis 4 elongatis linearibus plus minusve papillosis instructum; os inferior; labro lateraliter in processum subulatum palpiformem dilatato.

The papillæ are capable of being individually elongated and contracted, as in *Cypræa*.

**S. LINEOLATUS.** Corpus viride lineis ferrugineis longitudinalibus parallelis contortis, et ocellis inequalibus remotis ornatum; papillis remotis, ramosis; tentaculis anterioribus subulatis, nudis. Long. 3½ poll. Found on a reef at Honolulu, Oahu. *Pickering*.

Allied to *Aplysia striata*, Quoy, in its lineation.

**S. QUERCINUS.** Corpus elongatum, attenuatum, e fusco ferrugineum, longitrorsum rufo-lineatum, papillis elongatis ramosis instructum: tentaculæ prælongæ lineares, truncatæ, papillis acutis armatæ. Long. 3½ poll. Dredged at Lebuka, Feejee Islands.

The peculiar graining is something like that of oak wood.

**DORIS VERMICELLI.** D. oblongo-ovalis, tumida, verrucosa, ochracea maculis ferrugineis variegata, infra incolorata: caput parvum; tentaculis labialibus tenuibus elongatis; tentaculæ cervicales brevi, compressæ omnino laminatæ: stella branchialis plumulis numerosis gracilibus crenulatis triseriis instructa: pes latitudinem corporis sub-equans. Long. 2½ poll. Rocks washed by the surf at Villamar, near Valparaisa.

**DORIS SMARAGDINA.** D. parva, elongato-ovalis, antrorsum angustata, smaragdina, indico marginata et punctis ocellatis numerosis cœruleis picta; tentaculis et branchiis flavidis: tentaculæ labiales curtæ; t. cervicales elongatæ, lamellis profundis: stella branchialis magna; plumulis 12 lanceolatis pinnatis, pinnæ quindecim. Long. 1½; lat. ½ poll. Vincennes Island, Paumotu Group. *Couthouy*.

**DORIS PETECHIALIS.** D. rotundato-ovalis, depressa, argillacea aurantiaco marginata et petechiis rosaceis ornata, subtus incolorata aurantiaco limbata; tentaculæ cervicales chermesinæ, acuminatæ: stella branchialis plumulis rosaceis angustis lanceolatis pinnatis sex: pes angustus corpore brevior: caput minimum; tentaculis labialibus curtis, conicis. Long. 2½; lat. 1¼ poll. Obtained at Honolulu, Oahu.

**DORIS LILACINA.** *D. magna*, elongata, lateribus anticè dilatatis retrorsum angustata, lilacina maculis saturationibus notata, granulata: caput parvum: tentaculæ cervicales clavatæ, reflexæ: stella branchialis magna: plumulis 6, trifoliatis, foliolis profundè sinuatis. Long.  $3\frac{1}{2}$ ; lat.  $1\frac{1}{4}$  poll. Honolulu, Sandwich Islands.

Remarkable for the angular dilatations at the neck like a trilobite, and the plumules like the leaves of *Acanthus*. [*Actinodoris*?]

**DORIS CEREBRALIS.** *D. grandis*, elongata, ovoidea, retrorsum angustata, dorsuosa, ex olivaceo flavescent: tentaculæ cervicales recurvæ, apicibus laminatis conicis; t. labiales subulatæ citrinæ: stella branchialis magna, plumulis 6, foliatis, bipinnatifidis, acanthiiformibus: tubus analis curtus, pinnis ornatus: solea angusta, brevis: pallium flavo-marginatum, rufo-purpureo nubeculatum. Long. 5; lat.  $3\frac{3}{4}$  poll. From a reef in Sandalwood Bay, Feejee Islands.

**DORIS AURITA.** *D. elongata*, depressa, anticè truncata, sanguinea, pustulis raris instructa; tentaculis et branchiis sulphureis: tentaculæ cervicales breviter recurvæ, ad apicem obliquè laminatæ: stella branchialis magna, foliis 8 involutis plumosis albidis: tubus analis simplex, curtus: regio anterior fimbriis lateralibus auribus simulantibus, et areâ inferiori (an ore?) sulphureo marginatis insignis: solea angustata, lateritia, margine flavo. Long.  $3\frac{1}{2}$ ; lat.  $1\frac{1}{2}$  poll. From a reef, Sandalwood Bay, Feejee Islands.

Generally resembles *D. aurea* Quoy, which has but five branchial plumes. It is probable that appendages are protruded from within the ear-like fringes answering to the labial tentacles.

**DORIS SPIRACULATA.** *D. oblonga*, antrorsum angustata, fulva, punctis aurantiacis et purpureis maculis albidis dorsalibus duabus, et maculis purpureis elongatis lateralibus utrinque 4 ornata: tentaculæ cervicales conicæ, recurvæ, rufæ: stella branchialis remota, basi cupuliformi, plumulis 7-lobatis (lobis plumosis ad 12) ad labium sitis. Infra straminea, maculis rufis longitrorsum picta; caput transversum. Long.  $3\frac{1}{2}$ ; lat.  $1\frac{1}{2}$ ; alt.  $\frac{3}{4}$  poll. From Direction Island, one of the Feejees.

In many respects resembling *D. cruenta* Quoy, but the spots are much smaller and more numerous, and the cup from whence the plumules arise is peculiar.

**DORIS SUPERBA.** *D. magna*, rotundato-ovalis, fimbriâ latissimâ nisi ad frontem cincta, intensè sanguinea, iridescens, punctis flavis ocellatis hic illic glomeratis irrorata: caput parvum, rotundum; tentaculis labialibus ovalibus palmatis, 7-lobatis; tentaculis cervicalibus curtis, recurvis, acutis; stella branchialis magna, plumulis lilacinis 12 (paribus 6) racemiferis, racemis 5-foliatis 5-lobatis. Long.  $5\frac{1}{2}$ ; lat. 4 poll. Fangasai Bay, Tutuilla, Samoa Island.

Of the size and color of *D. Sandwichensis* Souleyet, which is less red, the ruffle not deficient in front, back mottled, branchial plumes eight. Agrees with *D. flammulata* Quoy, except in the labial tentacles and plumes.

**DORIS CARDINALIS.** *D. grandis*, rotundato-ovalis, sub-lobata, fimbriâ latâ cerasinâ anticè angustatâ cincta, sanguineo et flavido maculata, et lituris purpureis notata; tentaculæ cervicales rubræ recurvæ, clavo conico coronatæ: stella branchialis magna, complexa, plumulis 6 dendriticis, 3-ramosis; ramusculis numerosis rosaceis: pes elongatus, papaveraceus: caput parvum, rotundum, rosaceum; tentaculis labialibus explanatis latis, cordatis. Long. 6 lat.  $4\frac{1}{2}$  poll. Honolulu, Oahu.

Much like *D. Sandwichensis* above, but the branchiæ and cervical lobes are different. It is intermediate between *D. sumptuosa* and *D. superba*.

**DORIS SUMPTUOSA.** *D. prægrandis*, rotundato-ovata, transversim 3-constricta, ex cerasino purpurascens flavo-punctata, fimbriâ latâ violacescente flavo marginatâ et cerasino submarginatâ cincta: caput parvum rotundum: tentaculæ labiales explanatæ laciniatæ; laciniis ad 12 crenulatis: tentaculæ cervicales clavatæ, reflexæ, rosaceæ: stella branchialis magna, plumulis numerosis 3-foliatis biseriatis, foliis serratis, pedunculatis: pes angustus, dilutè rosaceus. Long.  $10\frac{1}{2}$ ; lat.  $8\frac{1}{2}$  poll. Obtained at Tonga Islands.

Much the largest species yet made known, and well distinguished by its labial appendages, violaceous ruffle, and its profusion of expanded plumules. In size, general form, and color, it is like *D. marginata* Quoy.

[This species, with *D. superba* and *D. cardinalis* belongs to the genus *HEPTABRANCHUS* Ehrenberg.]

**DORIS ASPERSA.** *D. parva*, elongato-ovata, retrorsum angustata, depressa, margaritacea ad limbum flavesceus, confertim puniceo-punctata: stella branchialis parva; plumulis 8 lanceolatis, pinnatis, rubiginosis; pinnis ad 13, ciliatis. Long.  $1\frac{1}{2}$ ; lat.  $\frac{1}{2}$  poll. Vincennes Island, Paumotu Group.

**DORIS [Goniodoris] DORSALIS.** *D. parva*, gracilis, elliptica, retrorsum angustata, dilutè lilacina lineâ marginali et submarginali saturatori, et lineis dorsalibus duabus parallelis sanguineis ornata: tentaculæ labiales parvæ; t. cervicales clavatæ, cineræ aurantio et indico cinctæ: stella branchialis parva, plumulis 6 attenuatis ad 17-foliatis, foliorum paribus tribus superioribus colore indico tinctis, ceteris flavidis. Long.  $\frac{3}{4}$ ; lat.  $\frac{1}{8}$ ; alt.  $\frac{1}{12}$  poll. On shells of Perna, in the harbor of Talao, Eimeo. *Couthouy*.

By two bright-red lines along the back, and the indigo-barred ten-

tacles and plumes, this species is easily identified. It is allied to *D. rayée* Souleyet, and *D. lemniscata* Quoy.

**PLACOBANCHUS IANTHOBAPTUS.** Corpus oblongum, triquetrum, posticè abruptum, ex flavido olivaceum, ocellis majoribus cœruleis albo-pupillatis et ocellis minoribus albis aurantiaco-pupillatis ornatum, caudâ et labiis ianthino tinetis: caput latum; tentaculis ochraceis violaceo-annulatis: pes pallio haud disjunctus, smaragdinus, ocellatus; plicis branchialibus smaragdinis. Long.  $2\frac{1}{2}$ ; lat.  $\frac{5}{8}$  poll. Coral reef at Honolulu, Oahu.

Like *P. ocellatus*, but too different to be considered a mere variety.

**DIPHYLLIDIA RUBIDA.** Corpus lanceolatum, posticè acuminatum, erubescens, dorso concinnè plicato; pallium angustè reflexum; caput cucullatum. Long.  $1\frac{1}{4}$  poll. From a coral reef, Honolulu, Oahu.

**ELYSIA LOBATA.** Corpus limaciforme, gracile, dilatatum, trilobatum, virescens nigro-punctatum; pallium utrinque flavo-marginatum; tentaculæ elongatæ. Long. 1 poll. Creeping on coral stems, like a *Doris*, at Honolulu. *Dr. Pickering.*

Genus **CHIORERA.** Corpus limaciforme; caput enorme, pedunculatum, semiglobosum; paginâ ventrali discoideâ: ore longitudinali, seriebus binis cirrhorum cincto: tentaculæ cephalicæ foliatæ, retractiles; lobi branchiales flabelliformi, serie unicâ utrinque ordinati: foramen generativum ab anali remotum, ferè dorsali.

Accords with the family Tritoniadæ except in the curious oral apparatus.

**CHIORERA LEONINA.** Corpus albidum aurantiaco subtiliter reticulatum; lobi branchiales incolorati, aurantiaco venosi: solea incarnata. Long. 5; lat.  $1\frac{1}{4}$ ; alt. 1; diam. capitis,  $1\frac{5}{8}$  poll. Dredged at Port Discovery, Puget Sound. *Mr. Dyer.*

**CHITON [Leptochiton] INTERSTINCTUS.** T. parva, rotundato-ovalis, vix carinata, rubricata, ubique quincuncialiter punctata; valvis ad apicem acutis, lineâ elevatâ luteo-maculatâ divisis, arcis lateralibus et valvis terminalibus juxta marginem plicatis: margo coriaceus, granuloso-squamosus. Long.  $\frac{1}{2}$ ; lat.  $\frac{3}{10}$  poll. Hab. Puget Sound, Oregon.

About the size and color of *C. castaneus*, and with the size and many of the characters of *C. Stutchensis* Middend.

**CHITON [Chætopleura] VESPERTINUS.** T. parva, sub-ovata, carinata, thalassina intus rosacea, punctis triangularibus insculpta; arcis lineâ elevatâ divisis; valvâ anticâ lineis radiantibus octo notatâ; valvâ posticâ parvâ, ad apicem emarginatâ, propè marginem umbonatâ; margine coriaceo, pilis raris induto. Long.  $1\frac{1}{4}$ ; lat.  $\frac{3}{10}$  poll. Inhabits Puget Sound, Oregon.

Allied to *C. ciliatus*, Sowb., in the form of the posterior valve, size,

color, and sculpture, excepting that we here have punctures instead of granules. It is closely allied to if not a variety of *C. lignosus*.

CRANIA [Discina] RADIOSA. T. suborbicularis, inequaivalvis, crassiuscula, citrina, costulis radiantibus divaricantibus, et striis concentricis cancellata; valvâ superiori convexâ, apice acuto, post-mediano; valvâ inferiori planulatâ, concentricè laminosâ et interdum versus peripheriam radiatim costulatâ, fissurâ minimâ perforatâ: intus cristâ acutâ in valvâ inferiori apophysin furcatum gerente, bipartita; cicatricibus incrassatis; marginibus ciliatis. Diam.  $\frac{1}{3}$ ; lat.  $\frac{1}{8}$  poll.

One specimen found at Rio Janeiro, which seems to be identical with specimens from Cape Palmas, and from which the description is mainly drawn.

ARGONAUTA GENICULATA. Corpus ovatum, supra gibbosum; caput breve, angustum: oculi magni, prominentes, pupillo nigro, iride aurato: siphon conicus, elongatus: os magnum; rostris fortibus: brachia basi adnata, superioribus cylindraccis, geniculatis, vexillum semiellipticum, flocculosum gerentibus; brachiis secundis longissimis: color virescenti-argentata, punctis chokolatis oculatis variegata. Whole length, 6 inches; breadth,  $1\frac{1}{2}$  in.; length of sac  $2\frac{1}{2}$  in.; length of superior arms, 5 in.; inferior,  $4\frac{1}{2}$  in.; superior lateral, 6 in.; inferior, 4; diam. of umbrella,  $1\frac{1}{2}$  inches. Taken near the Sugarloaf, Rio Janeiro. *Couthouy*.

Resembles most nearly *A. argo*. The joint-like flexure of the arms is different from that of any described species.

OCTOPUS MEGALOCYATHUS. Corpus ovatum, læve, chokolatum lineis cinereis marmoratum, membranâ laterali angustâ quasi natatoriâ munitum: caput angustum: oculi prominuli: siphon bulbosus, curtus: os magnum, rostris nigris: umbella amplissima: brachia longissima; acetabulis confertis, maximis. Length of head to eyes, 2.7; of body, 7.5; of arms, 34; circumference of body, 11; of arms, 3; breadth of umbrella, 8: of largest cupule, 1.3 inches. Orange Harbor. *Lieut. Alden*.

Remarkable for the size of its umbrella and cupules, and especially for the narrow membrane along the sides of the body, which has been noticed in no other species except *O. membranaceus* Quoy. It is closely allied to *O. Fontainianus* D'Orb.; *O. tehuelca* comes from the same region and has the same general characters. [Allied to *Pinnoctopus* D'Orb.]

OCTOPUS MIMUS. Corpus parvum, ovato-globosum: caput angustum: oculi parvi, exstantes; papillo nigro; iride aurato et miniato: apertura ad angulos maculis rufis flavo-cinctis oculos simulantibus signata: brachia robusta, corpore quater excedentia pro longitudine 3, 2, 4, 1; acetabulis remotis, purpureo cinctis: umbella amplissima:



os eccentricos; rostris nigris: siphon parvus, tenuis: tunica reticulata, musiva, coloribus ochraceis, maculis lunatis transversis fuscis ordinatim picta. Length of body, 3.5; breadth, 2; length of dorsal arms, 14; upper lateral, 18; lower lateral, 20; ventral 15 inches; diam. of largest cupules  $\frac{2}{3}$  inch. Callao, Peru.

Its peculiarities are its reticulated surface and narrow transverse chocolate clouds; its large umbel and broad membranes between the arms, and its apparent possession of two pairs of eyes.

**OCTOPUS TETRICUS.** Corpus magnum, oblongo-ovoideum, fissurâ longitudinali sub-bilobatum: caput subquadratum, vix corpore distinctum, rigidum: oculi parvi, occulti: apertura parva, crescentica: brachii robusti, abbreviati, pro longitudine 2, 3, 4, 1; acetabulis ad brachia lateralia majoribus: os minutum, rostris inclusis: umbella ampla: tunica plus minusve verrucosa, superciliis et dorsibus brachium superiorum cirrhigeris. Length of sac, 2.5; upper arm, 12; superior lateral, 16; inferior lateral, 16; inferior, 13; breadth of umbel 5; of arm, 2-3; diam. of largest cupules,  $\frac{1}{2}$  inch.

Found near Sydney, New South Wales. Most resembles *O. vulgaris*; the size of the eyes, the arrangement of the cirrhi and other obvious marks distinguish them. *O. rugosus* Blainv. has a smoother surface, only a single cirrus, and arms less developed.

**OCTOPUS FURVUS.** Corpus pyriforme, læve; caput elongatum, deorsum dilatatum: oculi magni, cirrhis tribus superciliaribus ornati; pupillo nigro; iride aurato: brachia longissima, gracilia, subequalia; acetabulis magnis, approximatis: umbella parva: tunica ochracea interdum fuscescens vel cinerascens. Length of body, 6; of arms about 40 inches. From the Market, Rio Janeiro. *Couthouy*.

Of a remarkably long and slender form and small umbel. It is more slender than *O. tetracirrus*, but the number and position of the cirrhi are different. Its proportions are much as in *O. macropus*, but the coloring is different.

**OCTOPUS ORNATUS.** Corpus globosum; caput dimidiam corporis latitudine adequans: oculi parvi haud prominentes; pupillo nigro; iride argentato: apertura lata: os parvum, eccentricum: umbella parva: brachia gracilia, attenuata, quoad longitudinem 2, 4, 3, 1, superioribus robustis, alteris gradatim gracilioribus; acetabulis numerosissimis, confertissimis: tunica reticulato-papillosa, arcolis pallidis ovalibus signata; supra aurantiaca, strigis longitudinalibus flavidis 5, et maculis alternantibus etiam intra-brachialibus variegata. Length along back,  $2\frac{1}{2}$ ; breadth,  $1\frac{1}{2}$ ; of neck, 1; of umbrella above mouth, 2; below, 1; laterally, 3; length of arms, upper pair, 20; upper lateral, 24; lower lateral, 20; lower, 21 inches.

Obtained at Oahu and Maui, Sandwich Islands.

No described species approaches this except *O. macropus* Risso, in which there is a marked distinction in coloring, and in the proportional length of arms.

**OCTOPUS PUSILLUS.** Corpus parvum, subglobosum: caput æquè longum ac latum: oculi magni, protrusi: apertura parva: brachia robusta, contorta, citò attenuata, pro longitudine 1, 2, 3, 4; acetabulis magnis, confertis; umbella ampla. Whole length about three inches. Obtained at Mangsi Island, China Sea. In spirits.

This may be the young of some larger species like *O. rugosus*, but in its présent state it differs essentially. Others may be able to settle the question.

**OCTOPUS MOLLIS.** Corpus parvum, elongatum: oculi valdè exstantes: siphos bulbosus, elongatus: brachia gracilia, basi haud approximata, pro longitudine 4, 3, 2, 1; cupulis remotis: tunica (vino conservata) ochracea rufo-punctata, ramusculis venosis ad dorsum brachiorum notata. Long. 3 poll. Obtained at Tutuilla, Samoa Islands.

This also may be a young specimen. It is most like *O. Indicus*, but is more delicate in all its characters than any species I have seen.

**SEPIOTEUTHIS ARCTIPINNIS.** Corpus elongatum, ovato-lanceolatum, pinnis perangustis, arcuatis munitum: caput oblongum corpore angustius: brachia sessilia, curta, crassa, pro longitudine 2, 4, 3, 1: brachia tentacularia æquè ac corpore longa, triente extremo dilatato-lanceolato, series 4 acetabulorum gerente; os magnum, cupuliferum: tunica brunneo-purpurascens rufo-punctata, infra pallidior.

**OMMASTREPHES INSIGNIS.** Corpus magnum, sub-cylindraceum, posticè angulatum: pinna trientem longitudinis corporis superans, rhomboidalis, acutangularis, latior quam longa: siphos pyriformis, arcuatus: caput breve, latum, supra convexum, infra excavatum: oculi parvi: brachia sessilia, robusta, triquetria, subequalia, pro longitudine 2, 3, 4, 1, trientem proximum paris inferioris acetabulis privatum vel fimbriatum; acetabulis parium lateralium majoribus: brachia tentacularia gracilia, vix ad extremitatem dilatata, ad trientes duos extremos acetabulis instructa: color (vino conservata) rufo-cinerea.

Shell  $8\frac{1}{2}$  inches long and about  $\frac{1}{2}$  inch broad, the posterior two inches, dilated into a paddle-shaped blade.

Length of body 10; of head  $2\frac{1}{2}$ ; of fin 4; breadth of body 3; of head  $2\frac{1}{2}$ ; of fin 6; length of longest sessile arm  $6\frac{1}{2}$ ; of shortest  $4\frac{1}{2}$ ; of tentacular arms 10 inches.

Obtained at Feejee Islands. *Dr. Holmes.*

The only species to which this bears any close relation is *O. todarus*

Rafin., from the Mediterranean, differing from it chiefly in the arrangement of the cupules.

**ONYCHOTEUTHIS RUTILUS.** Corpus breve, anticè latum deinde sensim angustatum, dorso carinatum; pinnis magnis  $\frac{1}{2}$  corporis superantibus, longioribus quam latis: caput subquadratum, subtus excavatum: oculi nigri, maximi; siphon brevis, cylindraceus: brachia sessilia triquetria,  $\frac{1}{2}$  corporis longitudinis adequantia, ordine longitudinis 4, 3, 2, 1, acetabulis pedicellatis sub-uniserialibus instructa: brachia tentacularia robusta, cylindrica, unguibus ad 10 pedunculatis munita: color supra metallicus, reflectionibus violaceis et auratis ornatus; infra salmonacea; capite coloribus violaceis, lilacinis, aurantiacis, flavis, etc. ornato.

Whole length  $8\frac{1}{2}$ ; of body 4; of head  $\frac{3}{4}$ ; of long arm 4; of fin  $2\frac{1}{2}$ ; breadth of body  $1\frac{1}{2}$ ; of fin  $3\frac{3}{8}$  inches. South Pacific, near Sydney, N. S. Wales.

Somewhat allied to *O. Banksii* Fer., but its proportions and colors are different.

**ONYCHOTEUTHIS BREVIMANUS.** Corpus cylindraceum, vix dilatatum: pinna rhomboidalis, latior quam longa,  $\frac{1}{4}$  corporis superans: caput breve, subglobosum: oculi mediocres: brachia sessilia, curta, gracilia, infimis longioribus, supernis brevioribus: brachia tentacularia brevissima: color ex sanguineo violacescens. Length 6; of body  $3\frac{3}{4}$ ; of head  $\frac{5}{8}$ ; of fin  $1\frac{3}{8}$ ; breadth of body  $\frac{5}{8}$ ; of fin  $2\frac{1}{4}$  inches.

Obtained at sea, 120 miles west of Tutuila, Samoa Islands. Described from a figure by Mr. Agate.

The extraordinary brevity of the tentacular arms, scarcely longer than the shortest sessile ones, is quite enough to characterize the species.

**LIMACINA SCAPHOIDEA.** T. pellucida, involuta, scaphoidea: spira latior, anfr. 3, ultimo amplo: apertura sub-circularis; labro arcuato. Diam.  $\frac{1}{10}$  poll.

Taken in the equatorial Atlantic, and figured by Mr. J. D. Dana.

Resembles somewhat *L. inflata* Gray.

**LIMACINA [Agadina] CUCULLATA.** T. pellucida, planorboidea, altero latere anfractus 5 ostendens, altero anfractus unicum umbilicatum: apertura obliqua, campanulata. Diam.  $\frac{1}{4}$  poll.

Found near an ice-island, within twenty miles of the Antarctic Continent, lat.  $66^{\circ}$  S., long.  $106^{\circ} 20'$  E.

Described from a sketch by Mr. Agate. I propose to name the genus after him.

Animal black, with ovate appendages, not intimately united at base.

**HYALÆA INERMIS.** T. ovato-globosa, posticè angustata, compressa et truncata, angulis posticis emarginatis, anticè rotundata: apertura angusta, transversa, labro haud porrecto. Animal alis transversis angustis ad angulum posticum emarginatis instructum. Long.  $\frac{7}{8}$ ; lat.  $\frac{4}{5}$ : alt.  $\frac{4}{5}$  poll.

From a figure by Mr. Dana; locality not mentioned.

**HYALÆA FEMORATA.** T. sub-cordata; angulis posticis productis, arcuatis et cornua subrecta, prælonga, retroversa gerentibus. Animal alis transversis trapezoidalibus munitum. Length of shell and animal, also of alar expansion,  $1\frac{1}{2}$  inch.

Obtained in the equatorial Atlantic.

Described from a figure by Mr. Dana. It is remarkable for its long and corpulent appendages.

**CLEODORA EXACUTA.** T. pellucida, triangularis, subtus concava, supra per-convexa, anticè rotundata, posticè valdè acuminata, lateribus concaviter arcuatis. Animal cervice longo et alis divergentibus oblongo-ovalibus instructum. Long.  $\frac{1}{2}$  poll.; lat.  $\frac{2}{3}$  longitudinis. Found by Mr. Dana, in lat.  $44^{\circ}$  N., long.  $154^{\circ}$  W., off the mouth of Columbia River.

Resembles a West India species which has the sides more deeply concave, and the lateral angles prolonged into spines.

**CLEODORA [Creseis] MUNDA.** T. elongato conica, modicè recurva, subcompressa, ad apicem rosacea: apertura rotundato-elliptica. Animal alis ferè transversis latè coadunatis, obliquè triangularibus, subarcuatis, instructum. Long.  $\frac{1}{4}$  poll. Found in the equatorial Atlantic, and figured by Mr. Dana.

Possibly *C. virgula* Rang.

**CLEODORA [Creseis] PLACIDA.** T. elongato-conica, vix reflexa: apertura circularis. Animal alis oblongis obliquis, angustis, curtis, instructum. Long.  $\frac{1}{4}$  poll.; aperturæ diam.  $\frac{1}{10}$  poll. Obtained in the equatorial Atlantic, and figured by Mr. Dana.

More obtusely conical than any described species, and the alar expansions are small.

**CLEODORA [Creseis] FALCATA.** T. elongato-conica, valdè recurva: apertura circularis. Animal alis flabellatis, obliquis, subarcuatis, iridescentibus munitum. Long.  $\frac{1}{2}$  poll. Taken by Mr. Dana, between Oregon and the East Indies.

The extraordinary curve of the shell, as well as the peculiar form of the wings, are the prominent characteristics.

**ATLANTA PRIMITIA.** T. nautiloidea, rotundato-ovata, compressa, dextrorsum umbilicata, carinâ latâ sensim angustatâ cineta: spira anfr. 3: apertura angusta, elliptica, angulis acutis; labro arcuato

color violacea. Obtained in the equatorial Atlantic and figured by *Mr. Dana*, with notes.

Closely allied to *A. Lesueurii*, *Voy. de la Bonite*, pl. 20; f. 1-15.

**ATLANTA CUNICULA.** *T. fragilissima*, pellucida, nautiloidea, subcircularis, compressa, carinâ latissimâ cincta: apertura elliptica, acutangularis. Obtained by *Mr. Dana*, in lat. 28° N., long. 178° E., to the westward of the Sandwich Islands.

The animal is very different from that belonging to the last species.

**ATLANTA VIOLACEA.** *T. nautiloidea*, vix compressa, violacea, valdè carinata: anfractus quatuor sensim crescentes: apertura elliptica, angulis rotundatis. Long. integ.  $\frac{3}{8}$ ; lat.  $\frac{1}{12}$  poll. Found in the stomach of a Bonito, lat. 3° S., long. 20° W. Figured by *Mr. Drayton*.

**ATLANTA TESSELLATA.** *T. nautiloidea*, compressa, carinâ angustâ cincta: anfr. 4, maculis quadratis violaceis seriatim dispositis, ornati; anfr. ultimo citò crescente: apertura angusta, ad angulum internum rotundata. Diam. max.  $\frac{1}{4}$ ; diam. transv.  $\frac{1}{20}$  poll. Found with the preceding.

The remarkable series of quadrate spots is a very obvious distinctive character.

**CYNTHIA AMPHORA.** *C. subglobosa*, ochracea, tenuis, longitudinaliter sulcis remotis segmentata et omnimodè subtiliter corrugata. Orificia approximata, magna, labiis eversis et incrassatis. Alt.  $1\frac{1}{2}$ ; circumf.  $\frac{3}{4}$  poll. Found abreast Fort Santa Cruz, Rio Janeiro.

**PHALLUSIA VIOLACEA.** *T. nigro-violacea*, erecta, ovato-cylindracea, coriacea, lævigata, nitida; orificia subequalia, parva, mamillas subglobosas perforantia. Alt.  $2\frac{1}{2}$ ; diam.  $1\frac{1}{2}$  poll. Taken off the north point of the entrance to Rio Janeiro harbor. *Couthouy*.

**ASCIDIA MONSTRANS.** *A. subglobosa*, sursum porrecta et versus aperturam buccalem sensim angustata: apertura excretoria parva, valdè inferior; tunica tenuis, lævis, ex olivaceo aurantiaco demum sanguinea: labiis simplicibus, ciliatis. Alt. ad 1 poll.; diam. circiter  $\frac{2}{3}$  longitudinis. From the entrance to the harbor of Rio Janeiro. *Couthouy*.

**BOLTENIA COACTA.** *B. ovata*, rigida, lanata, longitudinaliter rugosa, ochraceo-olivacea, posticè pedunculata: aperturæ subterminales, remotæ, cruciatae, inermes, intus rosaceæ, mamillas obtruncantes. Long.  $2\frac{1}{2}$ ; diam. circiter  $1\frac{1}{2}$  poll. Dredged in 16 fathoms. Orange Harbor. *Couthouy*.




Genus AMNICOLA, Gould & Haldeman (Inverteb. of Massachusetts, 1841.)

Testa ovato-conica, cornea, tenuis: spira acuta, anfractibus paucis rotundatis: apertura parva, obliqua, rotundato-ovata; peristomate simplici, continuo: operculum corneum, pauci-spirale. Incolæ caput proboscidiforme sub-bifidum; ore inferiore, vibracula setacea; oculis basalibus, externis; solea subovata, anticè truncata, angulis extensilibus.

Allied to Paludinella, and distinguished from Paludina by its small size, elongated head, paucispiral operculum, &c.

## PROCEEDINGS OF THE BOSTON SOCIETY OF NATURAL HISTORY.

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VERTIGO NACCA. T. ovata, lucida, alabastrica, tenuissimè striata; anfr. 4 + ventricosis; apice obtuso; suturâ profundâ: apertura sub-circularis dente palatali (interdum bifido) dente columellari, dente basali denteque labiali armata; peritremate valdè reflexo; umbilico rimato. Axis.  $\frac{1}{10}$ ; diam.  $\frac{1}{12}$  poll. Hab. Hawaii. Dr. Newcomb.

The denticles are similar to those in *V. Gouldii* and *V. tantilla*. The latter is smaller, has a rugose surface, and one more denticle.

NASSA PLICATELLA. T. parva, elongata, ovato-conica, acuminata, sublivida et fasciâ albidâ cincta, longitudinaliter confertim plicata et striis volventibus plicas haud secantibus cincta; anfr. 7 planulatis; suturâ benè impressâ et marginatâ: apertura angusta, elliptica, posticè acuta: labro simplici: sinu obliquo, vix reflexo. Axis 15; diam. 17 millim. Hab. British Burmah. Mr. Benjamin.

Resembling somewhat *N. achatina*, though very much smaller.

CHRYSTALLIDA CURTINA. T. minuta, ovato-turrita, albida; spiræ anfract. 6-7 convexis, seriebus granularum quatuor cancellatis, granulis anticè sensim defuentibus, anfr. ultimo dimidiam longitudinis testæ superante: apertura angusta, anticè producta; columellâ posticè plicâ munitâ. Long. 5; lat. 2 millim. Inhabits S. Carolina.

It has the aperture, and in general the sculpture of *Chemnitzia*, with the columellar fold of *Odostomia*.

DUNKERIA SUTURALIS. T. minuta, eborea, turrita; anfract. 7-8 convexis, longitudinaliter 10-12 plicatis (plicis anticè evanescentibus) et striis volventibus tenuibus cinctis quorum unâ subsuturali benè impressâ; anfract. ultimo dimidiam longitud. testæ brevior: apertura lunata, trientem longitud. testæ brevior. Long. 3+; lat. 1 millim. Hab. Fort Johnson, Charleston Harbor, S. C.

This minute shell belongs to the *Chemnitzia*, with strongly marked sculpture, and with ventricose whorls.

**RISSEA INCOMPTA.** *T. minima, elongata, vitrea, lactea posticè rubiginosa*; anfr. 7 rotundatis, costis ad tres cinctis, longitudinaliter inordinatim clathratis et indentatis, posticis carinatis: apertura circularis, peritremate simplici, incrassato. Long. 2; lat. 1 millim. Among coral sand, Florida; abundant.

**RISSEA (s. g. Setia) PATENS.** *T. minuta, ovata, tenuis, vinosa, levis*; anfr. 5-6 ventricosus, lineâ subsuturali impressâ ornatis: apertura rotundata posticè emarginata; columellâ parum reflexâ; labro subincrassato, fusco. Axis 3; diam. 2 millim. Hab. Fort Johnson, Charleston Harbor, S. C.

This minute Rissoïd is remarkable for its large aperture and subsutural impressed line.

**MANGELIA (Astyris) LABECULA.** *T. parva, ovato-fusiformis, cerina, maculâ castaneâ intra et extra labium ornata, spiraliter tenuissimè striata, longitudinaliter ad 16-plicata, plicis ad anfractum ultimum sensim evanescentibus, striis simul crescentibus*; anfr. 7-8 convexiusculis, lineâ subsuturali impressis: apertura parva, ovalis; labro gibboso, extus incrassato, intus granulato; sinu haud notabili. Axis 7; diam. 3 millim. Dredged off the coast of Georgia.

The brown blotch on the lip is a sufficient characteristic.

**BELA UNDATELLA.** *T. ovato-rhomboidea, lucida, lactea, nitida, vix spiraliter striata*; apice mamillato; anfr. 4 tabulatis (angulo rotundato) lineâ subsuturali impressis, undulis opacis longitudinalibus ad 8 ornatis: apertura longitudine dimidiam testæ adequans. Axis 3; diam. 1, 5 millim. Dredged in 400 fathoms off the coast of Georgia.

The transparency and mamillated tip of this minute shell render it plausible that it may be the young of some larger shell.

**MARGINELLA (s. g. Gibberula) LACHRIMULA.** *T. minima, ovata, lactea, lucida, nitida, longitudinaliter exilissimè striata*; apice haud eminente, vitreo: apertura angusta, crescentica; labro obtuso, extrorsum varicoso posticè latè arcuato et apicem admodum superante, intus vix crenulato; columellâ anticè 4-plicatâ. Axis 1, 5; diam. 1 millim. Dredged in 400 fathoms off the coast of Georgia.

This may be distinguished from one or two other minute species found in the W. Indies, by its transparency and its ventricose form.

**SEMELE NEXILIS.** *T. oblongo-ovalis, compressa, haud nitida, alba versus umbones pallidè incarnata concentricè laminato-striata et sulcis radiantibus remotioribus concinnè reticulata, ad intersectiones punctata, et versus extremitatibus muriculata*; umbonibus vix post medianis; plicâ haud profundâ; dentibus lateralibus satis conspicuis æquè ab umbone remotis; paginâ interiori erubescente. Long. 25; alt. 15; lat. 7 millim. From the coast of Georgia.

The sculpture is similar to that in the young of *Lucina tigrina*, but much more delicate.

**SEMELE ORNATA.** *T. parva*, elliptica, rubescens propè marginem rosaceo concentricè et radiatim tineta, concentricè costato-striata et radiatim striata præsertim ad umbones et versus extremitates: plicâ satis conspicuâ: cavositas flavo et sanguineo tineta admodum radiata; dentibus præcipuè validis. Inhabits the coast of Georgia.

Similar in form and sculpture to the preceding, but different in coloration and hinge.

**ERVILIA CONCENTRICA.** *T. minuta*, oblongo-ovata, pellucida, nitida, (senioribus, incrassatis, margaritaceis) confertim sed profectò concentricè arata; umbonibus paullo postmedianis; extremitate antico acutiori quam extremitate postico. Long. 6+; alt. 4; lat. 3 millim. Dredged off the coast of North Carolina. *Coast Survey.*

This little shell, which seems to be abundant along the whole Southern coast, is quite different from anything before described.

**GOULDIA FASTIGIATA.** *T. parvula*, obliquè triangularis, solidula, flavida, concentricè arata præcipuè versus umbones; umbonibus acutioribus antrosum versis; margine anteriori concava; margine dorsali arcuatâ; marg. ventrali subrecto; angulo ventrali antico ferè recto; ang. postico rotundato. Long. 8; alt. 8 millim.

From Frying-pan Shoals, N. Car. *Coast Survey.*

Another species of the genus established to receive the little Astartoid shells, with more or less developed lateral teeth.

**LUCINA PUSILLA.** *T. minuta*, reniformis, straminea, concentricè leviter striata; umbonibus postmedianis, eminentibus; margine dorsali anteriori excavato, extremitate rotundata, retusa; extrem. postica latè rotundata, subtruncata; intus radiatim striata, radiis versus umbones evanescentibus. Long. 3; alt. 2, 5 millim.

From the coast of North Carolina. *Coast Survey.*

This very minute species has the form of the subgenus *Codakia*, but is destitute of the divaricate striation. It approaches the genus *Lasea*.

**LEDA UNCA.** *T. parvula*, solidula, rufescens, sub-æquilateralis, omninò liris reflexis profundis arata; extremitate antico latè rotundato; extrem. postico acutissimo; margine dorsali posticâ concavâ, cristatâ, levigatâ; marg. ventrali posticè sub-emarginatâ; denticulis utrinque 12-15. Long. 8+; alt. 6; lat. 4 millim.

From Frying-pan Shoals, N. Carolina. *Coast Survey.*

This small, acutely rostrate species greatly resembles one from the Bay of Bengal. The specimens examined were destitute of epidermis, and probably worn.

Genus **COPTOCHEILUS.** *T. chrysalidiformis*, acuta, arcuè perforata, castanea; apertura a spirâ ferè disjuncta; peristomate plus minusve duplici, laminâ internâ posticè incisâ. Operculum (*C. altum*) corneum, multispirale, circulare, planulatum.

Type *C. altum* Sowb. and with it *C. sectilabrum* Gould, *C. pauperculum* Sowb., and *C. funiculatum* Bens.

These species, which have been included in the genus *Megalomastoma*, are essentially different from the remarkable shells of the West Indies coming under that genus, although the single species *M. Antillarum* has much the same character. Their habitat, general aspect, and especially the double peristome, which is quite obvious posteriorly, where the inner plate has a nick on one side or the other, give them a marked affinity. They group with *Tortulosa*, *Pupina*, *Registoma*, and similar eastern genera.

Genus *OSTODES*. *T. parva*, turbinata, solida, ossea, albida, spiralliter sulcata interdum undulata, profundè umbilicata: apertura ferè circularis; peristomate simplici, ferè continuo; fauce porcellanà. Opereculum corneum, multispirale, suturà modicâ. Incolæ vibraculis subulatis, tenuibus; oculis haud pedicellatis.

Type *Cyclostoma strigatum* Gould, including also *Cycl. plicatum* Gd. (*C. apiaë* Recl.), *C. obligatum* Gd., *C. tiara* Gd., *C. flavum* Brod., and probably *C. margarita* Pfr. and *C. euomphalus* Phil.

This small group of shells, which has been included in the genus *Cyclophorus*, § 3, Pfr., comes nearer to *Omphalotropis* in the family *Pupinæ*. They are known by their bony structure, dingy white, unpolished, striated, waved or indented surface, simple aperture, and deep, spiral umbilicus, almost like *Torinia*. They are all from the Pacific Islands, mostly from the Samoa group.

*LUCIA*. Ligamentum nudum (?) latum: valvis carinatis, apiculatis delicatè pictis, pallidis, angulato-punctatis, ultimo gibboso, umbone centrali valdè elevato; marginibus insertionis dentibus pectinatis numerosis instructis.

*L. confossa* Gould, on which this genus is founded, has nine prominent pectinated teeth of insertion on the anterior valve, about twenty-five on the posterior, and five or six on each side of the central valves. The ligament, most likely, was finely imbricate. The posterior valve is very remarkable, the hinder portion rising vertically so as to form a right angle on the umbo. The pale lemon or cream color, delicately variegated with shades of red, and the sort of triangular or squamose puncturation, are quite characteristic. *Ch. petaloides* G. doubtless belongs to this genus; though the details of the plates of insertion were not examined.

Both these shells are from the Pacific Islands, — the one from the Feejees, and the other from the Sandwich Islands; and, so far as I know, they are the only Chitons yet found at the Polynesian Islands.

It is allied to *Callochiton* by its plates of insertion and central posterior umbo, but differs in its marginal ligament, and general aspect and ornamentation.

TEREDO, subgenus CALOBATES. Pallettes stilt-shaped, bony. Type, *T. thoracites* Gd. Page 222.

XYLOPHAGA CARDISSA. *T. rotundato-ovata*, desuper visa cuneato-cordiformis; rictu ventrali rhombeo; angulo ventrali obtuso; angulo intrante etiam obtuso, apicibus rotundatis; extremitate postica acutè rotundatâ; extrem. antica curtâ, satis latâ; umbonibus tumidis, globosis; marginibus dorsalibus recurvis, umbilicum amplum efformantibus; sulco mediano utroque concentricè plicato; portione posticâ simplici; portione antica concinnè et confertim denticulatâ; apophysi gracili demum dilatato et arcuato. Long. 10; alt. 7; lat. 8 millim.

From the Mergui Archipelago. *Rev. Mr. Benjamin.*

The basal angles are much as in *X. terediniformis*; but it differs from this and from *X. aperta* in the acutely ovate posterior form, the rounding of the angle apices, and the very delicate prominent sculpture.

Genus JULIA. *T. equivalvis*, valdè inæquilateralis; umbonibus eminentibus, compressis, incurvatis; areolâ cordiformi valdè impressâ: cardo utrâque valvâ sistens dente unico subcochleari, dextro post sinistrum aptante, et rimâ transversâ anticè limitato; sinistro ab umbone fissurâ sejuncto: ligamentum marginale: cicatrix unica, subcentralis, tripartita.

This curious genus bears no resemblance to any one yet described, unless it be to *Reniella Swains.*, which has been pronounced to be the early stage of *Vulsella*. It is very difficult to assign it a place; but it must at present be associated with *Vulsella* and *Pedum*, though externally it has the texture, polish and ornamentation of the *Veneridæ*. The delicate fissures issuing at the hinge indicate the possession of a byssus. Further observations must solve our doubts.

JULIA EXQUISITA. *T. parva*, ovata, anticè insigniter rostrata, ossea, polita, concentricè undulata, smaragdina ubique fusco radiatim punctata et interdum albo articulata; margine postero-dorsali latè arcuato; m. ventrali instricta: intus margaritacea, radiatim exilissimè striata; margine everso, tenuissimè crenulato. Long. 5; lat. 4; alt. 4 millim.

Inhabits Sandwich Islands. *Rev. Mr. Johnson.*

A beautiful little shell, colored like *Smaragdinella* from the same islands. The sudden and profound depression in front of the beaks is quite striking, and thus produces a very pointed somewhat upturned anterior end. A single valve looks much like some of the *Bullidæ*, *Chelidonura*, for instance.



## RECTIFICATIONS.

Since the time when the printing of the "Expedition Shells" was begun, in 1846, great changes have been made in nomenclature. Very many new genera and subgenera have been instituted, some of which have been fully established by the structure of the mollusks producing the shells. Meantime, also, the same species has, in many instances, been described by different authors under different names. Some of the most important rectifications, thus becoming necessary, are given below, and are, for the most part, indicated by being inclosed in brackets [ ].

Page 3. Chiton [Onithochiton] quereinus, jaspideus (p. 4); dentiens (p. 6.)

Page 3. Chiton [Lophyrus] jugosus.

Page 4. Chiton [Lepidopleura] platessa.

Page 4. Chiton fruticosus = *C. divergens* Rv. (1847.)

Page 5. Chiton [Leptochiton] pruinosis, interstinctus.

Page 5. Chiton [Lucia] confossus (6) petaloides.

Page 5. Chiton [Chætopleura] muscosus, vespertinus.

Page 6. Patella talcosa = *P. cuprea* Rv. (1854.)

Page 7. Patella [Tectura] fimbriata = *P. cinis* Rv. (1854.)

Page 8. Patella Paumotensis = *P. cretacea* Rv. (1854), and possibly may be *P. pentagona* Born.

Page 8. Patella luctuosa Rv., may be *P. margaritaria* Chem.

Page 8. Patella piperata seems to be *P. rustica* L.

Page 9. Patella [Scutellina] cinnamomea.

Page 9. Patella [Nacella] instabilis.

Page 9. Patella [Scurria] conica.

Page 9. Lottia [Tectura] pintadina, probably = *patina* Esch.; some of its varieties are *T. mesoleuca* Menke (1851) *diaphana*, Cumingii and *verruculata* Rv.

Page 9. Lottia [Tectura] onychina.

Page 9. Siphonaria normalis = *S. funiculata*, *postea lirata* Rv. (1856.)

- Page 9. *Fissurella cratitia* = *F. aspera* Escholtz (1833.)
- Page 10. *Patella* [*Tectura*] *araneosa*, *cymbiola*.
- Page 10. *Patella* [*Tectura*] *scabra* = *spectrum* Rv., but is not his *scabra* (1854.)
- Page 10. *Patella* [*Tectura*] *textilis* is a variety of *T. persona* Esch.
- Page 14. *Rimula* [*Cemoria*] *cucullata*, *galeata*, *cognata*.
- Page 14. *Crepidula rostriformis* = *C. adunca* Sowb. (1825.)
- Page 15. *Calyptrea* [*Crucibulum*] *fastigiata*.
- Page 16. *Helix* [*Mesodon*] *labiosa* = *H. Columbiana* Lea. (1836.)
- Page 17. *Helix* [*Mesodon*] *devia* = *H. Baskervillei* Pfr. (1849.)
- Page 17. *Helix* [*Anchistoma*] *loricata* = *H. Lecontei* Lea (1852.)
- Page 17. *Helix gulosa* is perhaps *H. Lessoni* Pfr.
- For the animal see under *H. pedestris*, p. 18. Its peculiarities are such as to give it a generic distinction; and I would name it *BADISTES*.
- Page 17. *Helix* [*Theba*] *ziczac*, perhaps *H. Ide* Gray (1849) and *rapida* Pfr. (1853.)
- Page 18. *Helix pedestris* is *H. Townsendiana* Lea (young); the animal here described belongs to *H. [Badistes] gulosa*, p. 17.
- Page 18. *Helix* [*Iberus*] *strigosa*, *sportella*, *spirillus*, *pauxillus*.
- Page 19. *Pusillus* change to *pauxillus*.
- Page 19. *Helix* [*Microcystis* Pfr.] *exequata* = *H. disculus* Pfr. (1850.)
- Page 20. *Helix* [*Helicostyla* s. g. *Corasia*] *cicercula*, *cultrata* = *callifera* Pfr., *cryptoportica* (1850.)
- Page 21. *Helix* [*Discus* Fitzinger, *Euryomphalus* Beck] *gradata*, *fornicata*, *rubiginosa*.
- Page 21. *Helix* [*Pitys*] *dædalea*.
- Page 22. *Helix* [*Pitys*] *obolus*, *setigera* = *hystrix* Migh., *stellula*, *bursatella* = *H. coarctata* Pfr. (1849) + *H. turricula* Homb. & Jacq., a distorted variety + *H. excavata*, immature + *H. streptaxon* Rv. (1852) = *H. cavernula* Jacq. = *H. oceanica* LeGuillou, in *Jardin des Plantes*.
- Page 23. *Helix* [*Trochomorpha*] *Cressida*, *trochiformis*, *Eurydice*, *Troilus* = *H. Videna* Pfr.; var. b. = *H. Crouani* Le Guill. in *Jardin des Plantes*; var. c. = *H. Apiæ* + *Vahina* Hombr. & Jacq. in *Jardin des Plantes*; var. e. is *H. exclusa* H. & J.
- Page 24. *Nanina* [*Orpiella*] *scorpio*.
- Page 25. *Nanina* [*Hemiplecta*] *rubricata* is *H. Nouleti* according to Pfeiffer = *H. inornata* Jacq.; *H. lurida* = *H. Pfeifferi* Phil. (1857) fide Pfeiffer.
- Page 25. *Nanina calva*, change to *casca*; may be *H. Vitiensis* Pfr. (1857.)

- Page 25. *Nanina* [s. g. *Parthena*] *irradiata*.  
 Page 25. *Helix* [*Callicochlias*] *intaminata*; probably *H. Broderipii* Pfr. 1846 = *Carac. dealbata* Brod. 1841.  
 Page 26. *Vitrina Ruivensis*. Albers says this is *V. Behni* Lowe, while Lowe regards it as *V. Teneriffie*.  
 Page 26. *Vitrina marcida*. Albers declares this to be the dead of immature *V. nitida*, while the animals are widely different.  
 Page 27. *Succinea* [*Helisaga*] *cepulla*, *rotundata*, *putamen*.  
 Page 27. *Succinea rotundata* = *S. Newcombi* Pfr. (1854.)  
 Page 28. *Succinea* [*Tapada*] *lumbalis*, *humerosa*, *infundibuliformis*.  
 Page 28. *Succinea* [*Brachyspira*] *vesicalis*, *Magellanica*.  
 Page 31. *Bulimus* [*Orthalicus*] *prolatus*.  
 Page 31. *Bulimus* [*Charis*] *morosus*, *elobatus* = *Founaki* Homb. & Jacq. in *Jard. des Plantes*.  
 Page 32. *Bulimus* [*Napæus*] *pruninus* = *B. cyaneus* Alb. (1857.)  
 Page 32. *Bulimus* [s. g. *Rabdotus*] *ciliatus*.  
 Page 32. *Bulimus* [*Stenogyra*] *juncæus*.  
 Page 32. [*Otostomus*] *hybridus* = *B. egregius* Pfr. (1845.)  
 Page 33. *Partula* [*Auriculella*] *pusilla*.  
 Page 33. *Partula zebrina* = *P. Recluziana* Petit (1850.)  
 Page 33. Pupa [*Alæa*] *tantilla*.  
 Page 34. Pupa [*Tornatellina* s. g. *Leptinaria*] *peponum*.  
 Page 35. *Achatinella* [*Leptachatina*] *acuminata*, *cerealis*, *guttula*.  
 Page 37. *Cyclostoma* [*Ostodes*] *plicatum* (name preoccupied) = *C. Apia* Recl. (1851) *strigatum*, *obligatum*, *tiara*.  
 Page 39. *Cyclostoma* [*Omphalotropis*] *terebrale*, *vallatum*, *roseum*, *scitulum*.  
 Page 41. *Dombeya* should be genus *Chilina*.  
 Page 42. *Physa tabulata* = *P. Novæ-Hollandiæ* *Jard. des Plantes*.  
 Page 44. *Melania* [*Tiara*] *Cybele* = *M. villosa* Phil. (1848.)  
 Page 44. *Melania* [*Plotia*] *tetrica*, *terpsichore*.  
 Page 45. *Melania* [*Aylacostoma*] *corporosa*, *lutosa*, *vainafa*.  
 Page 47. *Melania* [*Plotia*] *furfurosa*.  
 Page 47. *Neritina cholericæ* = *N. sandalina* Recluz, according to him, and may also be compared with *N. Delesserti* Petit (1853.)  
 Page 48. *Neritina chrysocolla* = *N. Roissyi* Recluz, fide Recluz.  
 Page 49. *Natica* [*Lunatia*] *Lewisii* = *N. herculea* Middend. (1849.)  
 Page 50. *Natica* [*Lunatia*] *caurina*, *algida*, *soluta*.  
 Page 50. *Natica* [*Neverita*] *dilecta*.

Page 52. *Aminicola egea* was published in the Government volume as *A. gracilis*.

Page 52. *Littorina patula* = *L. planaxis* Phil. (1847.)

Page 54. *Turbo* [*Pachypoma*] *laciniatus*. This shell comes from New Caledonia, and grows to a much larger size (three by two and a half inches) than here described. The old specimens lose the columellar denticle and rosy tint, and the peritreme becomes produced. Sometimes the row of spines is doubled.

Page 54. *Turbo* [*Stella*] *confragosus*, *laciniatus*, *sirius*.

Page 54. *Stilifer acicula* = *Eulima vitrea* A. Ad. (1854.)

Page 54. *Solarium* [*Torinia*] *egenum*.

Page 55. *Trochus* [*Cantharis*] *pruninus*, *texturatus*.

Page 55. *Trochus* [*Ziziphinus*] *ligatus* = *castaneus* Nutt. (1850.)

Page 56. *Trochus pupillus* = *Margarita calostoma* A. Ad. (1851.)

Compare also *T. modestus* Middend. (1849.)

Page 56. *Trochus* [*Gibbula*] *gradatus*, *jucundus*, *amœnus*.

Page 57. *Trochus* [*Thalotia*] *elusus*.

Page 57. *Trochus* [*Tectus*] *circumsutus*, *acinosus*.

Page 59. *Trochus tantillus* = *Margarita angulata* A. Ad. (1851.)

Page 59. *Trochus* (Monod.) [*Camitia*] *rotellinus*.

Page 59. *Trochus* (Monod.) [*Clanculus*] *atropurpureus*.

Page 59. *Trochus* (Monod.) [*Eucheles*] *instrictus*.

Page 60. *Pyramidella* [*Rissoina*] *ambigua*.

Page 61. *Cerithium invaginatum* = *C. planum* Phil. (1839.)

Page 61. *Cerithium aduncum* = *C. dorsuosum* A. Ad. (1855.)

Page 63. *Mangelia* [*Cythara*] *cithara*.

Page 64. *Fusus* [*Neptunea*] *incisus*.

Page 64. *Fusus* [*Bela*] *fidicula*, *sublutus*.

Page 64. *Fusus* [*Trophon*] *crispus*, *liratus*, *Orpheus*.

Page 66. *Murex* (Trophon) [*Typhis*] *fruticosus*.

Page 67. *Buccinum* [*Bullia* s. g. *Leiodomus*] *velatum*.

Page 67. *Buccinum* [*Cominella*] *funereum*.

Page 67. *Buccinum* [*Nassa* s. g. *Tritia*] *fossatum*.

Page 68. *Buccinum* (Pollia) [*Nassaria*] *farinosum* = *Hindsia angicostata* Pease (1860.)

Page 70. *Nassa* [*Tritia*] *mendica* N. Woodwardi Forbes (1850.)

Page 71. *Columbella* [*Alia*] *gausapata*, *castanea*.

Page 71. *Columbella* [*Astyris*] *valga*.

Page 73. *Mitra* [*Pusia*] *encausta*.

Page 73. *Pholas* [*Zirphæa*] *patula*.

Page 74. *Solen* [*Siliqua*] *scalprum*.

Page 76. *Lutraria* [*Tresus*] *maxima*. This should bear the name *capax*, first given by me, as the name *maxima* is preoccupied by Jonas (1844.)

Page 77. *Osteodesma* [*Lyonsia*] *bracteatum*, *Brasiliense* (s. g. *Entodesma*).

Page 77. *Mesodesma* [*Paphia*] *mundum*.

Page 78. *Amphidesma* [*Semele*] *croceum*.

Page 78. *Erycina* (*Poronia*) [*Scintilla*] *ovata*. The height should be  $\frac{1}{10}$ ; the breadth  $\frac{1}{20}$  of an inch.

Page 79. *Tellina* [*Tellinella*] *tithonia*, *exulta*.

Page 79. *Tellina* [*Angulus*] *lauta*, *compta* (inhabits Loo Choo Island).

Page 80. *Tellina* [*Arcopagia*] *concentrica*, *perula*.

Page 81. *Donax* [*Latona*] *tinctus* (inhabits Mergui Archipelago), *pallidus*.

Page 82. *Lucina* [*Mysia*] *inculta*.

Page 82. *Lucina* [*Loripes*] *vesicula*.

Page 82. *Lucina* [*Codakia*] *ramulosa*      *fibula* Rv.

Page 83. *Cardita* [*Actinobolus*] *procera*, *ventricosa*.

Page 84. *Venus toreuma* is probably *V. crebrisulca* Sowb.

Page 85. *Area* [*Anomalocardia*] *sobria*.

Page 86. *Cyrena* [*Corbicula*] *debilis*.

Page 87. *Anodonta cognata* = *A. Oregonensis* Lea (probably).

Page 89. *Unio dorsuosus* = *U. Nepeanensis* Conr. (1850).

Page 89. *Unio verecundus* = *U. Bengalensis* Lea (1835).

Page 90. *Avicula* to be changed to *Meleagrina*.

Page 97. *Terebratula* [*Waldheimia*] *pulvinata*, *Patagonica*.

Page 97. *Terebratula* [*Terebratella*] *caurina*.

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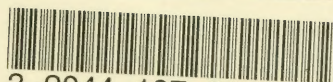












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